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"I cannot help plead to my countrymen, at every opportunity, to cherish all that is manly and noble in the military profession, because Peace is enervating and no man is wise enough to foretell when soldiers may be in demand again."—GENERAL SHERMAN.

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IS THERE NECESSITY FOR A SECOND WEST POINT?

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THE complexity of the problem of education is shown by the impossibility of framing a definition generally and universally acceptable as to what education really is. After accepting any one of the more or less comprehensive definitions of education, the still inherent difficulties of the problem are shown by the differences of opinion that have always existed as to the educational value of different subjects, as to the methods of teaching, and even as to the order of sequence of the subjects themselves. That the meaning of education and that the value, importance and order of the factors involved in its consideration, should have been discussed so long without reaching satisfactory conclusions shows that the problem is so many-sided that neither education nor its factors are susceptible of independent or precise definition, or limitation. It is sometimes thought that the field is considerably narrowed when the discussion embraces only military education, but the best military education involves so many unavoidable conditions that even this problem is beset with varied and numerous and still unsolved difficulties. Our country appreciates the difficulties now. Certainly not within forty years, and probably never in the history of the army, has there been such an educational fermentation as now agitates the military establishment. This agitation points to the fact that the

present requirements of our military service have grown beyond the means heretofore provided for meeting them, and indicates a desire for increased and improved methods in the education of officers.

Another cause of the agitation is the fuller recognition of the growing complexity of the art of war in certain of its branches, and also of its greater dependence upon applied science, both in the preparation and use of war material.

In the education of officers three stages may be very appropriately considered: First, the antecedent or preparatory; second, the intermediate; third, the subsequent. In this country, the preparatory education precedes entry into the government service; the intermediate is after entry into service, but precedes the commission; the third stage is after the receipt of commission and continues, to a greater or less degree, throughout an officer's career. Government control in our country extends only over the last two stages. It is here proposed to consider only the intermediate, or second, stage, not, however, including that education obtained through enlisted experience.

The extent of our country and its prospective growth renders it beyond question that the army will become larger in future, and that the demand for officers will constantly increase, and in a few years be *much greater*, and in fifty years *very much greater* than now. It would accordingly seem to be not only the privilege, but the duty of those in the military service to consider the necessities of the future and endeavor to meet them in the manner most advantageous to the Government.

Assuming that it is every way desirable for all candidates for commissions to have intermediate education, it is here proposed to make a few suggestions as to how this may be best accomplished in the future. The intermediate education of our officers, or their cadet training, has heretofore all been given at West Point, and it can certainly be justly claimed that it has been well given—the results prove this beyond all question; but this fact does not justify the conclusion that the training could not be improved, nor does it assure the anticipation that even equally good results will in the future follow education given at West Point. Whether improvement can be had or the same results maintained requires the consideration of a great variety of elements and

conditions. In such consideration it is of the first importance to weigh the influences which have been most potent in West Point's past, judge as well as possible of their continued soundness and practicability and estimate their probable efficiency for the future.

The potential influences at West Point have been

A—The object aimed at,

B—The methods pursued,

C—The curriculum prescribed,

D—The prizes which successful effort assures:

A—The object may be *approximately* and *generally* stated as aiming rather to *train* than to *educate*. This view of the Academy's function has, upon the whole, prevailed, though not without discussion, doubt and opposition; its prevalence at certain periods of the Academy's history was due to the positive conviction of a few men. From the records of the Academy and from a personal acquaintance with former members of the Academic Board and with their opinions, I have elsewhere (in *American Review of Reviews*, July, 1902) endeavored to set forth a summary of the convictions held by those who shaped and continued the Academy's policy. The main points of the summary are here substantially repeated. "It was held that the profession of the soldier is likely at times to be full of responsible work and to need men of character and power; that ability to use the rational faculties to the fullest advantage are the highest results of useful education, far higher, in general, than the acquisition of information; that, therefore, the Academy should train character and mind as well as inculcate the principles of military discipline; that conscious power is better than knowledge, and that such power is best acquired by successful effort in overcoming difficulties; that every specialty and every new proposition is sooner and better mastered by him who has had the training of concentrated, continuous mental effort; that unhesitating work, faithful drudgery if you please, are the surest means of success for the majority, and that these means should be made familiar habits to every graduate; that discipline is the training which subordinates inclination to effort, however disagreeable that effort."

Under this guiding belief both the methods and curriculum of the Academy originated and have developed.

B—Without attempting to specify the details of the Acad-

emy's methods, which are pretty well known to all our army officers, it may be again *generally* stated that they are based upon an extraordinarily thorough and efficient supervision of *all* required work by the professors and instructors. A large part of the Academy's success has been due to rigid and impartial supervision applied:

(*a*) to the academic studies, to the section-room experiences and the work pertaining thereto, which are foremost in training and developing mind, forming character, creating and fixing the fundamental ideas of subordination and discipline and giving information—this supervision has been so effective because of the small sections.

(*b*) to the practical military exercises outside the section-room, where the good influences are continued and added to; manly and soldierly habits and bearing are inculcated and compelled.

(*a*) and(*b*) embrace all those many educational factors which pertain to the manner of recitations and examinations and to the numerous details involved in the performance of the varied military exercises and in conforming to military restrictions at all times, all of which cannot be here enumerated.

(*c*) the third element of success has been in the power and independence of the Academic Board and other members of the Academic staff.

C—The curriculum was based upon the idea of thoroughness in a few things rather than superficiality in many, and its chief aim was to afford training rather than supply information, and it was equally intended to insure familiarity with strenuous effort—to establish the work habit—and also to give as much professional information as was consistent with other desired ends. The indispensable elements of success to these ends in both the theoretical and practical part of the curriculum were a systematic division, distribution and full employment of time.

D—The fourth influence above noted, but not generally given its full value, is the Government's offer of a permanent profession, depending upon success at the Academy and upon subsequent honorable career. This expectation inspires many while at the Academy and its realization afterward relieves them from the many temptations which so frequently come in the severe competition of other professions.

The glorious record of the Academy's first century, in which her work has been severely tested in the eyes of the world as well as in those of our own country, prove the general soundness of her object and methods. This general statement, while professing confidence in the soundness of the

beliefs which have shaped the Academy's policy and the developments therefrom under the conditions of the past, is not intended to imply full confidence that the developments can be continued and extended to the best advantage under *any* and *all* conditions, nor to assert that either methods or means have been perfect or remained unchanged up to the present. The success has of course been due to a more or less perfect application of the principles involved under past conditions.

Under the assumption here made that the future will demand a large increase in the number of officers, and that it is desirable to give intermediate education to all, the first question that arises is whether the West Point system, as it has been operated in the past, is equally applicable to large numbers together. The writer does not believe that it is, and the reason for the belief may be thus generally stated—*that large numbers unavoidably compel too many departures from the régime of the past and infringe at too many points upon the fundamental elements of success*—the grounds of the belief can be made more specific by reference to some of the important unavoidable difficulties:

1—A largely increased corps of cadets of necessity requires a wider distribution of its members, with locations more distant from the foci of instruction and centers of administration and supervision generally. It requires time and effort to overcome these, which means wasted energy, with less efficiency on the part of cadets in the proper directions, and smaller expectations on the part of their superiors, both of which mean a lower standard. With wider distribution of buildings for occupation and for instruction purposes, there is likely to result an effort to overcome these disadvantages, by the usual method of *class grouping*, so as to have each *class* near its main center of work, but this would diminish the undoubted benefits of the *company* grouping for barrack administration, interior police and discipline. Moreover, the regard for rules and regulations of all sorts is less, the greater the numbers involved, even with equal supervision; with less supervision this lack of consideration would be still more marked.

2—With the general admission that the academic work is the material framework of West Point's success, it is equally a fact that it is the military display, the ceremony, the parade

and the music, etc., that impress the general public: to understand the academic features requires mental effort and consideration; to enjoy and admire the latter requires neither, consequently there would always be present in a large academy a greater tendency to diminish its functions as a *school* and increase those of a *Military Post*.

3—With no lowering of the standard of requirement, the actual number found deficient would, of course, be greater the greater the number of cadets. The greater the number of deficients, the greater is the influence brought to bear to prevent discharge; each time that this influence is successful the standard is lowered and the power and influence of the Academic Board weakened. These important attributes of the board are in *no way strengthened* by an increase in the number of cadets, but the influences which *tend to break them down* would be largely increased.

4—A regular, well-ordered arrangement of time, distinctly defined with the time fully occupied, has been *most* important both in accomplishing work and forming habits. No element of our academic system has been more carefully considered than the "occupation of the cadet's time," and it has been most admirably arranged to give him opportunity to prepare and fit himself to exert his best efforts at the most appropriate season and under the most favorable conditions. In no respect does West Point differ more from most other educational institutions than in the clock-like precision and regularity with which all of its duties are prepared for and its exercises performed. Such arrangements, with authority to enforce them, *system* and *effectual compulsion*, have been wonderfully prolific in results. The greatly increased difficulty, amounting to impossibility in many exercises, of continuing this arrangement *is evident* when large numbers are involved.

5—Equal knowledge and supervision of a large class, as compared with a small one, by the heads of departments—those who must decide upon proficiency and deficiency—is impossible, and their knowledge of the requirements of all cadets is necessarily less. The ability of the department to grade cadets with equal accuracy is also less; this fact is known and appreciated by cadets and less importance is attached to the grading; this has a detrimental effect upon *effort*. As the instructors of a department are constantly changing this

supervision upon the part of the Head, extends to a certain extent to instructors. Even if the *proportion* of instructors to cadets could be kept the same, it is seen from the above that equally good results will not follow as with smaller numbers.

6—With large classes there is bound to be a wider range of aptitude, and in this fact lies one of the most difficult problems of large numbers. This is especially so in every department where practical or laboratory instruction is part of the course. With limited and defined hours for such instruction, a wide range n preparation, or a large number with unequal degrees of preparation, is much less easily adjusted to produce good results than in theoretical instruction.

7—Does the topography of West Point afford proper, suitable and desired facilities for applying the past system, without deterioration, to large numbers? Can the desired, the best instruction be given here in minor tactics, the service of security and information, target practice, etc., etc.? Every graduate will decide this point in his own mind; many officers think it does not, in which conclusions several recent commandants of cadets concur.

In addition to the conviction that neither the location of West Point nor its past efficient methods are applicable to large numbers, there are other reasons favoring a separation of schools. Our Academy stands practically alone among educational institutions, civil or military, in retaining a *considerable portion* of its curriculum chiefly because of its value in mental discipline and development, and not at all for its utility. In other institutions with scientific courses, including pure and applied mathematics, this disciplinary element is incidental to the mastery of the course and the courses are limited to the requirements of the student's professional life. In other words, these institutions trust to finding the necessary discipline mainly in useful studies, and in the preparatory studies which of necessity precede them.

This unique feature of our Academy applies to all those graduates who do not go into the scientific corps of the army. In the case of those graduating in the more scientific corps, the Academy follows the custom of other institutions—the mathematical and scientific studies of these graduates are certainly not now carried beyond the necessities of their profession, and their mental training is incidental to mastering

the tools of their profession, but the infantry and cavalry graduates are given a large amount of study chiefly for mental training purposes, since the knowledge gained is of no professional use to them.

What a course of study gives to a student should always be considered in connection with what it takes or keeps from him. The more purely disciplinary studies of our Academy pertain mainly to the departments of mathematics and philosophy and to a smaller extent to that of engineering. During the first three years of the academic course at the Academy, the two departments first named occupy the cadets on an average of four and a half hours daily for 607 days out of a possible 660 academic work days. While only a fraction of this time and labor is for purely disciplinary purposes, the total time is so great that it may well be asked if for a large number of cadets the disciplinary fraction of this labor could not be better devoted to other purposes. Besides the departments named, there are two or three others that add work that must be classed as mainly disciplinary so far as its value to a large proportion is concerned. Can there be a doubt that the courses in natural philosophy and ordnance, to take illustrations, should be very different for cadets who are to serve in the artillery from what they should be for those who serve in the cavalry?

In connection with what has just been said, it is very pertinent to consider whether a great many cadets do not fail to get the disciplinary benefits intended by these disciplinary studies, through a failure to *thoroughly master* the courses in the time devoted to them, for it is very generally admitted that without a successful mastery of the course, the efforts are not conducive either to mental growth or self-confidence. It is believed that this failure is the lot of a very considerable number. It is, too, a well-known fact that many officers of the army have always felt that they did not get adequate return in either information or training for the labor bestowed during their cadetship and have in mature life thought that more of the former and an equal amount of the latter might have been given them by different courses of study. It cannot, in my opinion, be asserted that these convictions are without basis.

To these conditions at the Academy, strongly indicating the desirability and wisdom of separate courses for the

two branches of service, I will add another, existing in the service, which with equal strength forces one to the same conclusion—to wit, the demand for technical and scientific knowledge in the artillery, ordnance and engineers, which is now far greater than ever before and is likely to further increase—the demand for this sort of knowledge has not increased to anything like the same extent in the purely military branches. If the officers of the scientific corps are to be more than skilled craftsmen in the technical duties of their corps, their mathematical and scientific attainments must increase rather than diminish. The conditions existing at the Academy and in the army as well as the interest of the cadets who will enter either the more scientific or the more purely military branches of the service, point to the desirability of a separation of courses; the writer is convinced that a separation of courses, when large numbers are involved, would produce better results through separate schools, distinct in location as well as distinct in most of their requirements. Besides the advantages, already referred to, of applying our system to smaller numbers, separately located schools would afford far better opportunities and facilities for making the wisest selection of courses for each class of students, with much greater freedom to modify or change the courses when deemed advisable.

In addition to these advantages of separate schools, another pronounced advantage follows, provided proper requisites for admission were demanded. The classes at each school could be carried much farther in both the general and special subjects of education deemed most beneficial for them, and at the same time be more thoroughly grounded in them. All would thus be better prepared at graduation to perform the first duties of a commissioned officer and better prepared to pursue the studies that must always come after the commission is received.

These conclusions merely assert the belief that the intermediate education demanded by the different branches of the service are sufficient to absorb the time and energies of those who expect to enter them, and that the education necessary to the perfect performance of duty in *any* branch can be made to shape the aptitudes best fitted for future development in that particular branch. The requisites for admission assumed above, any that might be deemed necessary, would

always be easily met among our 80,000,000 of people. It appears certain that separate schools would tend to increase respect for the professional attainments demanded in every branch of the service (for the reason that the attainments would be greater) and thus tend also to remove the idea, too prevalent in this country, that knowedge sufficient for military command is easily acquired. For both these reasons it is probable that separate schools would diminish the number of appointees from civil life and thus insure that a larger number of appointments to commissions would be educated and trained, to a certain extent, for the service they enter, either at the schools or by enlisted experience.

After much endeavor to form a fairly just estimate of the numerous elements and complex influences which have been most essential in shaping West Point results, and believing that West Point is without an equal among intermediate schools, the writer is led to the conclusion that the various factors of its success can be better conserved and more wisely modified in a small than in a large school and, consequently, in the event of a considerable increase in the number of cadets that it would be better to have *two* schools; it is also believed, that with large numbers, distinct courses of study are of equal importance with separate schools. Under such conditions it is thought that the academic courses can be made of greater practical benefit to the different classes of students and at the same time that the essential elements of West Point training are more likely to be retained and properly developed.

These views are not based upon any belief that our intermediate education should prepare specialists, nor is there any expectation of being able to dispense with the service schools, though it is believed that their work can be reduced and better preparation made for that required. Under the condition of separate schools it is, however, important that the most *serious mental training*, that requiring *concentrated mental effort*, as well as the application of all those *many agents* which teach military *subordination* and *discipline* and which tend so much to *form character*, should be made at these schools. One bad result to be greatly feared and reasonably anticipated in any attempt to accomplish all our intermediate education in one large school is, that it *would result* in bringing West Point to the condition of a sort of *preparatory* school, largely

altering its character as a *training, developing* and *character-forming school*, with the expectation that these results would, or could be, accomplished in the service schools, and also that the mastery of, and familiarity with, the higher intellectual tools of the profession could be there acquired. Many of the general considerations above given, as well as numerous special ones that might be enumerated, indicate that such would be the tendency in one large school. It is believed that the detrimental effect of such result can be unmistakably foreseen—if the intermediate schools do not *train*, this feature of education would largely disappear, for the *formative* period, the best for *development, training* and *acquirement* of *habits*—would have passed. With smaller schools, and with the example and tradition of West Point to guide their direction, it is confidently concluded that all the good results of the past, still deemed desirable, are more likely to be continued and multiplied.

After this partial enumeration of the supposed disadvantages of one and the advantages of two schools under new conditions, we may consider, briefly, the disadvantages that it is assumed would of necessity follow from two schools: First, a diminution of that "camaraderie" which results from one common school—that there would be a loss here cannot be denied; but this loss should not be overestimated, and it should be borne in mind that a loss in the same direction takes place every time that the Academy is extended. The relations which establish this fellowship would be greatly changed in one large school, especially so if the school had distinct courses of study for different parts of the same class, and this separation of courses is bound to grow more and more marked whether one or two schools. West Point has changed and is continually changing; the changes already brought about in methods of instruction and examinations, in the way of sports and exercises, the greatly lessened rigidity, etc., have much weakened the comradeship, the clanship, that existed even twenty-five years ago. It was to be expected that changes in the direction indicated would have this effect, and that it is the close contact and rigid rules that produce the "fellowship" spirit is shown by the fact that other institutions do not have it so strongly developed; as West Point approaches these institutions in size and methods this "camaraderie" will diminish. In smaller separate schools, with some-

what more limited objects, there is a number of important gains in this direction, prominent among which is a continuation of the closer relationship, which is the basis of the feeling; also, a most probable laudable *esprit* and ambition in each school to be the best for its purpose; so that while there is a loss in this respect in one direction, there is a gain in another.

Second. It is feared that the graduates from two school would not be so well equipped for *all service*, not so good "all around men." It has long been a partial admission, if not a claim, that West Point prepared each man for all branches of the service. Every officer will decide both as to the wisdom and discretion of this proposition. It is strongly held by the writer, as asserted in an earlier paragraph of this paper, that greater special fitness for junior commissioned service would result from *two* schools and *equal* or *better basis* of *preparation* for any future higher command that might involve mixed arms. It can with all fairness be claimed that whatever would be lost in breadth of preparation would surely be made up in depth.

Third. Another of the usually assigned disadvantages of two schools is, that the graduated cadets from one of the schools would be deprived of a valuable asset, the West Point diploma, and that such cadets would not have had the full influence of West Point traditions. With regard to the first, it should be remembered that the uniqueness and great value of the West Point diploma has always been due to the fact that there *was no other such school*—with another school preparing its graduates for their careers, as well, or better, than ever West Point did, there would come an asset of equal value. With regard to the loss of West Point traditions, it is believed, as already stated, that these traditions and influences would form and guide the new school; they need be departed from only for beneficial reasons, so that the loss would by no means be entire, nor is it conceived that such loss would have any material effect upon the efficiency of the school. These traditions are ingrained and would be active in the men who would conduct both schools.

Fourth. Increased expense is a fourth item that it is justly said will result from two schools. But it is not believed that this practical consideration should or would have much influence when balanced against the general interests intended to be served; if these interests are properly appreciated and

set forth, the means for securing them will neither be denied nor long delayed. There are many reasons for believing that the location of a second Government school at *any* selected point in our country would be enthusiastically welcomed by the people of that section, whose influence could surely be counted upon to accomplish the result.

In a brief article it is impossible even to enumerate all the influencing elements of the Academy, some of which are constant and some variable. Effort has been made to refer in a general way only to the more important considerations, each of which, as a rule, involves problems, the final solutions of which have not been reached. These problems deal with the distinction between *training* and *information* and with the *relative values* of subjects for each purpose; with the *conflicting claims* of subjects acknowledged to be useful; with the *methods* of *teaching* and of *testing* acquirements; with subjects of culture involving in varying degrees both training and useful knowledge. These problems are *always* before the Academy and the efforts to get a more perfect solution constantly bring about change. It is far easier to estimate the effect of change upon the success in *imparting information* than upon *character* and *mind-training*; the former can be compared at short intervals, the latter only after long lapses of time; accordingly the ascertained results of past experience as regards training should have great weight in determining the future. Methods which *train* are more to be regarded than those which only *instruct*.

Any one returning to the Academy now after an absence of fifteen years would observe many striking changes, the most important of which are: The disappearance in large part of the annual and semi-annual examinations, the introduction of intermediate examinations, that is, examinations during the academic term, at the completion of some part of the term-course; the large increase in written recitations with corresponding decrease in oral; a great increase in practical and semi-practical work in connection with the descriptive courses; the greater amount of time permitted for recreation exercises. These changes have greatly modified methods deemed of much importance for sixty years prior to 1890, yet it can be confidently asserted that the changes have enabled cadets to acquire a greater amount of information with less effort upon their parts. The

effect upon training cannot yet be known. It is hoped that the difficulty and importance of the problems always before the Academy have been fairly outlined; without due appreciation of these, suggestions as to the best solution of the problems cannot be judiciously made.

The suggestions above submitted, and the propositions upon which they are based, may be epitomized as follows: Our country contains nearly 80,000,000 of English-speaking people, living under Anglo-Saxon institutions; 70,000,000 of this popuation are white, the equals of any other nation in intelligence and perhaps surpassing every other people in restless energy. Our position of power and influence in a generation from now will be one of overwhelming importance. A larger army is inevitable, with a correspondingly increased demand for educated officers. This demand cannot be supplied by a single school at West Point for any considerable time, for the reasons that the West Point system, retaining the desired efficiency, is not applicable to the necessary number, nor does its topography offer desired and proper facilities for all branches of the service. Two schools, each of smaller numbers—one for engineers, artillery and ordnance and one for the infantry and cavalry—can best conserve the traditions and disciplinary features, mental, moral and military, of West Point, and yet give better preparaton for the requirements of the respective branches. These cadet-schools should always be *training*, *developing* and *character-forming* schools, as they control the students at the best *formative* periods for this purpose. The advantages of separate schools in other respects far outweigh their disadvantages.

The final conclusion is, that it would be wise to anticipate the necessities that will surely come, and steps should be taken to provide a second West Point at the next considerable increase in the number of United States cadets. It is assumed that one school should and would always remain at West Point.

SMALLER BATTERIES FOR FIELD ARTILLERY.

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IN discussing this theme I propose to take up first, our various organizations in the past; second, our present organizations; third, the organization of the field artillery of various foreign armies; and fourth, the organization which in my opinion is best suited to our field artillery with the new armament.

I.—PAST ORGANIZATION.

From 1808 to 1821 there was a so-called "Light Artillery Regiment" of ten companies, but as no horses were furnished, and the men were armed and drilled as infantry, this organization is mentioned simply to show that it has not been overlooked.

From 1821 to 1861 there were four regiments of artillery. One or more companies in each of these regiments was mounted from time to time as immediate necessity seemed to require, being again dismounted as the urgency passed. In 1838 and 1839 K of the 1st (now the 2d Bat., F. A.); A of the 2d (now the 3d Bat.); C of the 3d (now the 5th Bat.), and B of the 4th (now the 7th Bat.); were mounted, C of the 3d as a horse battery under Ringgold, and all did most gallant and efficient service in the Mexican War.

These batteries were each armed in peace with 4 brass six-pounders, and had 1 captain, 2 lieutenants, 4 sergeants, 8 corporals, 60 privates and 52 horses. In the Mexican War 2 12-pounder howitzers were added to each battery and the complement raised to 4 officers and 114 enlisted men. As a sufficient number of recruits could not be obtained, volunteers were secured from the regular and volunteer infantry. A sufficient number of these volunteers was obtained to fill up the complement. Six 4-pounder guns, captured from the Mexicans at Resaca, were divided among three batteries, giving them for a time 2 12-pounder howitzers, 4 6-pounder guns and 2 4-pounder guns each. The consequence of having these large batteries was that they were often divided up and

operated by half batteries or with one or two sections (platoons) in a place.

In the Civil War a new regiment, the 5th, was added to the artillery. All the batteries of this regiment were mounted and most of the batteries of the other regiments were mounted, yet the field artillery could not be said to have a regimental organization, even for administrative purposes, except to a very limited extent, as the batteries were assigned to duty as batteries and without regard to any higher artillery organization—the battery, for all practical purposes, being the administrative and tactical unit.

It was impossible to recruit the regular batteries up to anything like their proper strength, and in many cases two or three batteries were joined to make one, and in most cases volunteers were assigned from the volunteer infantry to serve with the regular batteries, as was done in the Mexican War. The authorized strength does not give much of an idea of the actual strength during the war. Many artillery officers were detached to serve with volunteers as higher officers in infantry or cavalry or on staff duty. The batteries were always short of officers and most of the officers assigned to the artillery during the war had to learn their duties as best they could after joining, and the command of the battery often fell to one of these new appointees. These circumstances placed a premium upon good artillery officers and undoubtedly militated against their proper advancement, as it was impossible to secure efficient officers to replace them in command of batteries or sections (platoons). The number of guns to a battery was usually six, but the horse batteries and later many of the others came to 4 guns. In 1861 the authorized war footing of a battery was 6 guns, 12 caissons, 1 battery wagon, 1 forge; 6 horses for each gun, caisson or forge, and 8 for the battery wagon. The number of horses authorized was 150. The personnel was to consist of 1 captain, 3 or 4 lieutenants, 1 1st sergeant, 1 q. m. sergeant, 6 sergeants, 12 corporals, 5 artificers, 2 buglers, 1 guidon, 120 cannoneers and drivers, making 4 or 5 officers and 148 enlisted men.

After the Civil War all but two batteries to each regiment were dismounted, and the number of men in a light battery was gradually reduced to about 70 men. The number of guns was reduced to 4 and the caissons to 4, with 4 horses to each

carriage. No horse batteries were retained in the service and none have been provided for since.

On the reorganization in 1898 for the Spanish War two new regiments of artillery were added, making 7 in all, and later two batteries were added to each regiment, making a total of 98 batteries. Of this number two in each regiment were equipped as light batteries, and later two batteries were equipped as siege batteries. The number of men in a light battery was authorized from 175 to 160; officers 4 or 5; 6 guns, 9 caissons, 1 battery wagon and forge, 1 artillery wagon; 6 horses to each carriage.

II.—UNITED STATES FIELD ARTILLERY.

Our present organization is based upon the Act of Feb. 2, 1901, which did away entirely with the artillery regiments and substituted therefore the Artillery Corps. The Artillery Corps consists of 126 companies of coast artillery and 30 batteries of field artillery; 2 of these batteries are siege batteries, 3 mountain batteries and 25 the usual type of mounted battery for service with infantry. The siege batteries have 4 officers and 160 men, the others 4 officers and 120 men. The siege batteries handle 4 siege guns or howitzers with the necessary ammunition and material. Each siege battery requires about as many animals as it has men. The mountain batteries handle 6 guns with the necessary ammunition and material, all carried on pack animals. The other batteries have 6 guns, 9 caissons, 1 battery wagon and forge and 1 store wagon. Each battery has 100 horses, so that all the equipment except the 3 extra caissons can be handled with 6 horses to each carriage.

During the Mexican War the authorized strength of each company of artillery, infantry and dragoons was about the same, 114 for artillery, 113 for dragoons and 110 for infantry, although each battery had 1 captain and 3 lieutenants, the other company organizations having 1 captain and 2 lieutenants.

In the Civil War the authorized strength for light batteries was about 150, that of cavalry and infantry about 100. Here again each battery carried on paper 1 captain and 3 or 4 lieutenants, while the other companies had 1 captain and 2 lieutenants.

For the Spanish and Philippine Wars the authorized

strength for light batteries was about 175, cavalry about 100, infantry about 125, each battery having 1 captain and 3 lieutenants, the others 1 captain and 2 lieutenants.

At the present time each battery except the siege batteries has 120 men, each troop of cavalry and company of infantry 65 men, each company coast artillery 109 men. Each field battery has 1 captain and 3 lieutenants, each of the other company organizations has 1 captain and 2 lieutenants.

III.—FOREIGN ARMIES.

Most of the great powers of the world have followed the lead of France and have adopted a rapid-fire gun for their field artillery and the re-armament is progressing. Russia and Austria-Hungary have had very large batteries—8 guns for heavy field and 6 for horse batteries; Great Britain, Germany and Italy 6 guns for all batteries; France 4 guns for heavy field, 6 for light field and horse batteries. But with the rapid-fire guns the number is reduced by two guns per battery. The number of caissons per battery is increased so as in every case to require the same or a larger number of men and horses per battery. On a war footing the number of officers is from 4 to 6; men from 150 to 350, and horses from 150 to 350 per battery.

But it must be understood that in some of those countries having large batteries, the battery is a field officer's command, and in others there are two captains to a battery. There are only 4 batteries to a regiment in the Russian service, each 8-gun battery being commanded by a lieutenant colonel. In other countries there are 6 to 9 batteries to a regiment. In Great Britain there are no artillery regiments. Each battery about the size of ours—6 guns, 5 officers and 170 men—is commanded by a major. The German batteries, both field and horse, have 5 officers and 170 men; the French about the same. But in these countries the size of the infantry companies is greater still, being over 200 on a war footing, while a squadron of cavalry rarely has as many men and horses as a battery of artillery.

IV.—PROPOSED ORGANIZATION.

The new rapid-fire field gun requires a complete change in the Field Artillery Drill Regulations, in so far as refers to the handling of the gun and caisson. The power of a whole

battery of the present gun is concentrated in a single one of the new guns. More skill will be required to take care of the new gun, to bring it into action, to operate it. This means a better trained personnel, and better understanding of the use of artillery, not only on the part of all artillery officers, but on the part of all officers of the higher grades under whose command artillery is likely to fall.

The 3-inch gun, firing 15-pound projectiles, may be a suitable gun for horse artillery; but if, for the bulk of our artillery, which serves with the infantry, we can, with the same number of horses, handle a longer range gun firing a heavier projectile, we shall probably have it. The British after their South African experience, are now adopting a rapid-fire gun firing an 18½-pound projectile for their heavy field batteries, and one firing a 12½-pound projectile for their horse batteries. This means a still more powerful weapon and accentuates the necessity for a highly-trained personnel, and a careful consideration of the proper employment of artillery in conjunction with the other arms of the service.

It therefore seems an opportune time, as we are changing from the old weapon and old tactics to the new, to make a study of the new conditions and see whether we can lay our foundations better by improving our organization, especially the company organization—the battery.

The organization of a field battery, on a war footing, as laid down in our present Drill Regulations is 1 captain, 4 lieutenants, 175 men and 149 horses; of a horse battery, 1 captain, 4 lieutenants, 175 men and 209 horses. Compared to a company of infantry or troop of cavalry one of these batteries is a pretty big affair, not large enough for a field officer's command in our service, but altogether too large for a captain's.

It has already been decided to reduce our batteries from 6 of the old guns to 4 of the new. But we must not be deceived by the word "reduce." As a matter of fact we are increasing the size of our batteries in number of carriages, number of horses and number of men. And we are putting in two repair wagons (battery wagon and forge), so that we are practically making a combination of two 2-gun batteries. I know it will at first thought strike artillery officers as the rankest heresy for a field artillery officer to advocate a reduction in the number of guns, men or horses of a battery, but I really think the question whether the artillery would not be benefited by

such reduction under the present conditions is worth careful consideration and study.

A reduction of the number of guns in a battery from 6 of the old to 4 of the new still makes the new battery larger than the old by two carriages.

OLD.	NEW.
6 guns	4 guns
9 caissons	12 caissons
1 battery wagon	2 battery wagons
16	18

The present battery, on a war footing, is an unwieldy organization out of all proportion to other company organizations in our service, and the new battery with four guns would be still more so.

Suppose we try 3 guns instead of 4 and we have,

3 guns
9 caissons
1 battery wagon

Total 13 carriages.

Now let us see how the number of men and animals work out for this size battery:

FIELD BATTERY.

	INSTRUCTION. 3 guns, 6 caissons, 1 forge and bat. wag.			WAR. 3 guns, 9 caissons, 1 forge and bat. wagon.		
	Officers	Men	Horses	Officers	Men	Horses
Captain	1	..	1	1	..	1
Lieutenants	2	..	2	2	..	2
Staff Sergeants	..	3	3	..	3	3
Sergeants	..	6	6	..	6	6
Corporals	..	9	6	..	12	9
Cooks	..	2	..	..	2	..
Artificers	..	4	..	..	4	..
Trumpeters	..	2	2	..	2	2
Guidon	..	1	1	..	1	1
Drivers	..	30	60	..	39	78
Cannoneers	..	24	..	..	36	..
Spare horses	..	..	..	..	..	3
Total	3	81	1	3	105	105

HORSE BATTERY.

	INSTRUCTION. 3 guns, 6 caissons, 1 forge and bat. wag.			WAR. 3 guns, 9 caissons, 1 forge and bat. wagon.		
	Officers	Men	Horses	Officers	Men	Horses
Captain	1	.	1	1	.	1
Lieutenants	2	.	2	2	.	2
Staff Sergeants	.	3	3	.	3	3
Sergeants	.	6	6	.	6	6
Corporals	.	9	9	.	12	12
Cooks	.	2	.	.	2	2
Artificers	.	4	.	.	4	2
Trumpeters	.	2	2	.	2	2
Guidon	.	1	1	.	1	1
Drivers	.	30	60	.	39	78
Cannoneers	.	48	21	.	51	33
Total	3	105	105	3	120	140

NOTE.—Siege, mountain and machine-gun batteries should conform as nearly as possible to the above in number of men in each battery.

Here we have numbers still somewhat larger than those in infantry or cavalry, but near enough to be in the class of company organizations.

I know that the number three seems a little awkward at first thought especially to those long accustomed to think of a battery as made up of two and three platoons (or sections as they were called in the Civil War) of two guns each; but there are several reasons why a three-gun battery, in our service especially, would be superior to a four-gun battery.

1. In our service it has always been customary to split up the battery, on the slightest excuse, sending one platoon here and another there—a vicious practice which artillery officers have been powerless to prevent. A battery of four rapid-fire guns would be handled like two 2-gun batteries, each one of which would be more powerful than an entire battery of the present guns. With 3-gun batteries this splitting up could not be done to such an extent, and the organization would habitually be kept intact in the hands of its commander. It was formerly thought necessary to have six guns in a battery, as it was considered that this number was the least that could give a "continuous" fire. Of course, this reason has no application in the case of the new gun.

2. The greatest handicap the United States Artillery has ever had came from the large-sized batteries requiring three or four lieutenants each. The new batteries should have an officer with the big reserve of caissons, repair and supply wagons —and then, if there are 4 guns in two platoons, one officer will be required with each, making three lieutenants to each battery, and we are keeping up the old trouble of too many subalterns in proportion to officers of the higher grades. Whereas with three guns one officer should be with the guns as the executive officer of the captain, who will have his hands full in observing the effects of the fire, giving directions as to the target, kind of projectile, rapidity of fire, etc. The other lieutenant would then be available for looking after the reserve train, keeping up the supply of ammunition, etc.

3. The number of men in a battery should conform as near as may be to the number in the company organization in other branches of the service. The company, troop and battery in our service are the units, and it goes without saying that the matters of administration and supply are much simplified by having these units of approximately the same size.

4. A small, compact organization can be kept in hand, instructed and handled better than a large and cumbersome one. Infantry and cavalry find that they must devote more attention to the training of the individual owing to improved weapons—increased rapidity of fire. And the same is now true to a marked degree of the artillery.

The following remarks of Colonel Mayne, of the British Army, in his book on "The Infantry Weapon and its Use in War" are directly applicable to the case under discussion:

"There is one advantage that we possess over other nations, and that is our small companies of 100 to 120 men. The large companies of other nations (of from 200 to 250 men) were, and still are, the product of financial economy. With their large armies recruited by conscription, they were unable to afford the expense involved in providing officers for double the number of small companies.

"Foreigners envy our small companies, because of the increased facilities they afford for the greater individual training of the men, and for the greater power of control that their officers have over them. Our imperial conditions compel us to occupy many small places with small units and this

obligation is also facilitated by our small company organization. And there can be no doubt that many of the disadvantages that our arm has to labor under are greatly minimized by the great influence of our company officers over their handy and easily managed commands, and by the power they thus possess for insuring a good training of, and control over, their men. And this advantage is one that is of increasing value as fire arms improve in deadliness of fire."

Field Artillery is not an independent arm but is auxiliary to the infantry or cavalry, supporting it and in turn relying upon its support. On the other hand, while it is true that artillery is always auxiliary and has no independent rôle upon the battlefield, it is also true that it has rôles to perform which can be performed by neither of the other branches.

In the first place it is the only arm which can operate against materiel at a distance. The small stone fort or block-house at El Caney (the key to the position) was absolutely impregnable to the assault of infantry. Between 5,000 and 6,000 infantry laid all day within a few hundred yards of the fort and minor defences, losing between 500 and 600 men killed and wounded. The defenders of Caney consisted of between 500 and 600 infantry. At last four small guns beyond the reach of rifle fire managed to breach the walls of the fort. As soon as they did so the infantry was able to move forward to the assault and in a few moments more the fight at Caney was over.

In the second place, it is the only arm that can cope with the enemy's well-supported artillery. "The first necessity is superiority in the artillery duel; for without this factor the infantry assault will rarely be crowned with success."—Von der Goltz.

But in addition to these two is the very important rôle of supplementing rifle fire by bringing shrapnel fire to bear upon the enemy's infantry and cavalry, beyond the range of the weapon carried by those arms; and just here I can not do better than quote again from Colonel Mayne's book: "The proper reply to the long-ranging power of the modern rifle is a better and more powerful and numerous artillery, as has now been provided since the Boer War closed." The shrapnel fire of artillery is nothing more than the use, by artillery, of a concentrated, collective fire of bullets at a far greater range than can be made use of by infantry. Such shrapnel fire can be

made use of with effect up to 5,000 or 6,000 yards with field guns, and up to still longer range with heavy guns, and at the longer ranges, when guns have got the range, rifles cannot hope to compete with them, especially if the guns are in any way concealed and their position unknown . . . it may be pointed out that whenever a really concentrated shrapnel fire of a large number of guns can get a fair chance against troops, its efficacy can only be characterized as destructive. Troops that are not covered from its bullets cannot exist under it, provided the fire is well placed and well concentrated." "It is to the artillery that long-range fire belongs."

Von Schellendorf: "As a normal rule guns are for use at the longer ranges, rifles at the shorter ranges."

There has been a good deal of loose talk for many years about separating the field from the coast artillery. The two services are so dissimilar and both so exacting, each in its own sphere, that it would seem that if an officer became a specialist in one he would have no time for the other. On the other hand, a tour of duty with field artillery gives an officer an agreeable change from coast artillery duty, and only those having an aptitude for the field branch and desiring service with it need be detailed. In this way we should always have our field artillery well officered, with a reserve of experienced officers to draw upon in case of a war in which it may not be necessary to fully man all our coast fortifications.

Nevertheless, we all know that in a war of any magnitude the regular artillery would soon be short of officers and would be supplied, if at all, with new appointments—officers of little or no experience. The best we may reasonably hope for is to have at least one experienced officer with each battery, and a good number of experienced non-commissioned officers. Without the platoon formation the battery commander can handle this situation much better than he could if he had to put a man who knew nothing of artillery in charge of half his battery; or if he had to take the 1st sergeant or the best chief of section away from his legitimate duties and put him in charge of a platoon.

Speaking of the experience of the British Army, so similar to our own, Colonel Mayne says: "On more than one occasion during the South African War the disadvantage was felt of having young and inexperienced officers put over older and experienced non-commissioned officers; the latter, often in

action, took the entire control of the men out of the hands of the former, even to ignoring their orders."

The infantry, cavalry and field artillery form the field army, and the relations between them should be those of comradeship, co-operation and inter-reliance. "A vital principle in battle is the mutual, organic co-operation of all the units and arms present."—Mayne. There will always exist a rivalry, to be sure, but a healthy rivalry is beneficial, and characteristic of all American institutions.

The officer of field artillery will rarely be in command of any troops except those in his own arm as long as he remains in the field artillery. In garrison his command will always be smaller than that of the infantry or cavalry with which he is stationed, and naturally his rank will be less than that of the infantry or cavalry commander. In the field also he will be serving under a general officer or an infantry or cavalry officer. It is therefore incumbent upon all officers of high rank of every branch of the service to take an interest in the artillery and study it in order to have a clear understanding of its proper employment.

It is a point of special importance that cavalry and infantry officers should have as practical acquaintance as possible with the effects that can be produced by artillery fire, by being made to visit from time to time the various artillery camps of exercise."—Mayne.

The fire of artillery has become relatively more important than it ever has been, and we can get more out of it, man for man and horse for horse, than ever before. But to secure the best results of which the new artillery is capable the arm must be properly handled, which can never be unless there is a clear understanding and cordial co-operation on the part of all concerned.

It must be confessed that the feeling between the artillery and the other branches of the service has not always been as cordial as it should have been, especially in time of peace. The reason for this lack of cordiality is partly due, it is believed, to the relatively large size of the batteries; to the common boast that a light battery is as big a command as a battalion or a squadron; that a light battery is the most independent command in the Army, etc.; and partly, in time of peace, to the fact that the infantry and cavalry have to do the guard and

fatigue duty of the post while the field batteries are excused therefrom.

Why should we not do away with exclusive privileges and take our reasonable share of post duties? On account of the extra work field artillery has in taking care of its horses and harness there is reason for excusing them from an equivalent amount of guard and fatigue duties when in an infantry garrison, but it is not apparent why they should be so excused when serving in a cavalry garrison.

Read Hohenlohe's Seventh Letter on Artillery, "The Spirit of Caste," to see what the principal factor was in bringing the German artillery to its high position in the Franco-Prussian War

"You know well the influence which social relations have on tactical co-operations. Men are not machines, and those who know each other well and live together on equal terms, work more harmoniously together in action, than they would if they were strangers to each other."—Hohenlohe.

CONCLUSIONS.

1. Field batteries should conform in size, as near as may be, to a captain's command in other branches of the service. To make an increase in the number of guns, the number of batteries should be increased. The number of lieutenants should be the same as in company organizations in other branches of the service; otherwise, stagnation in promotion, from which our artillery has always suffered, must result.

2. When in garrison with other mounted troops field batteries should perform their share of the post guard and fatigue duties.

3. The platoon formation should be done away with entirely. There has always been a great temptation to "detail a section" (platoon) as has been done constantly during our entire military history. With these new guns, a platoon of two pieces is really a much more powerful battery than six of our present guns. So that the evil I speak of would be even greater in the future; and with 4-gun batteries of two platoons each captains would continue to find themselves, from time to time, with nothing to command, or at most only a platoon. With 3-gun batteries the temptation would not be so great to detach one or two pieces, and it is believed they would be kept together more. One lieutenant will be needed to look after

the reserve, keep up the supply of ammunition, replace disabled men and horses of the firing battery, etc. In rapid-fire work on the battlefield the captain will have all he can do in observing and directing the fire. He will need one efficient lieutenant at hand to act as his executive officer at the guns and see that his directions are carried out. With trained gunners a battery should do more united, consistent work with one lieutenant at the guns than with two.

4. In order to fully utilize the great power of the new weapon now placed in our hands, the batteries must come into action early in the fight, must be able to change position quickly in the various phases of the battle, to take part in the pursuit or cover the retreat. All this means a highly trained personnel and well trained horses. It is believed that these essential features can be better obtained in small batteries than in large ones.

5. Our organization as a Corps of Artillery is a good one for the handling of field artillery, as the only administrative unit it recognizes is the battery, unhampered by any regimental ties. Battalions can thus be formed of such batteries and such number of batteries as is most expedient. Battalions can be joined into artillery brigades of such size and composition as is best suited to the work in hand. The battery has always been the administrative and tactical unit in our service. The fact that it has been the tactical unit has without doubt seriously hampered the artillery, and is the basis of many complaints of the misuse of the Federal Artillery during the Civil War. During the short time that we have had our corps organization we have brought most of the batteries together into battalions of two or more batteries. Smaller batteries would favor the battalion as the tactical unit for artillery as the battalion is for infantry and the squadron for cavalry.

Finally, its aim and ambition being to perform its special rôle on the battlefield in the most efficient manner, with a spirit of devotion to the best interest of the Army as a whole, the key-note of its *ésprit de corps* being not "I am holier than thou" but "A fair field and no favor;" being as near as may be on the same footing as the infantry and cavalry in regard to size of company, chances for promotion, routine dut es, etc.; guarding against the grievous errors and handicaps under which our branch of the service has labored in the past.

THE NECESSITY OF INCREASING THE EFFICIENCY OF THE CUBAN ARMY.

By Captain MATTHEW ELTING HANNA, Third Cavalry, Military Attaché at Havana.

SINCE the termination of the American military occupation of Cuba, the armed forces of the island, comprising the Rural Guard and Artillery Corps, have been more than doubled and have undergone a complete change of organization. The total enlisted and commissioned strength of the Rural Guard, on the inauguration of the Cuban Republic, was 1,223, and of the Artillery Corps was 242. By enactments of the Cuban Congress the former has been increased to 3,020 and the latter to 694. The armed forces of the island have thus been increased in strength from 1,465 to 3,714. In President Palma's last message to the Cuban Congress, on April 4th, he recommended a further increase of 1,000 men in the enlisted strength of the Guard by adding to the strength of existing regiments but without increasing the number of regiments or officers; this recommendation will most probably be enacted into appropriate legislation, and the total strength of the Cuban Army will then be approximately 5,000 men, most of them mounted, *i. e.* a fairly strong division of cavalry. Under the military government the Rural Guard was essentially a rural police force and it was given an organization consistent with the peculiar nature of the services that the force had to perform. The main features of this organization grew out of the principle of large salaries and no allowances, and from this also sprang the great mobility of individuals and detachments when on scout. When the force was increased the salaries were reduced to about what they are in our service, and allowances of clothing, subsistence, forage, grain, etc., were prescribed. Three regiments were organized, and quartermaster's, inspector's, judge advocate's, medical and paymaster's departments were imperfectly provided for. Although the duties of the Guard remain practically the same as they were formerly and although it is broken up into more than two hundred small detachments, still it has been given an organization more suitable for a concentrated regular estab-

lishment than for a widely scattered police force; it is evidently partly for the purpose of correcting the evils growing out of this that the force is to be further increased by one thousand men.

The question naturally arises as to what interest the United States has in the efficiency of this force, which is so rapidly increasing in numerical strength that it is no longer a negligible quantity. Not that it will ever be a menace, but in order that it may be converted into a strong auxiliary force. Is this force to be utilized in the event of a war with a foreign naval power? Is it not more than probable that the occasion may arise when such a force in the island of Cuba, available for preserving the interests of the United States as well as those of Cuba, would be very desirable and might even be a decisive factor in such a war? Will the neutrality of Cuba be respected by a foreign enemy if, by taking possession of some one of the splendid harbors of the island and landing an invading force, an important strategic advantage may be gained by the enemy? Most recent events in the far eastern war, where the neutrality of a sovereign state in conditions somewhat similar to those surrounding Cuba has not been respected, give additional weighty reasons for answering this in the negative. But granting the last question cannot be positively answered in the negative, still, so long as it is probable, or even possible, that the neutrality of Cuba might be violated by an enemy of the United States, it would appear that the plans of the latter should be based on the extreme supposition that the former would treat Cuba as United States territory, and might do her utmost to get possession of one or more of the island's splendid harbors.

In their present undefended condition, these harbors could offer no resistance to such a move on the part of the enemy, who would be limited in his operations by considerations of our navy only. However competent the navy may be to guard the entire coast of Cuba, in addition to the numerous other demands that would be made on it in time of war, the fact remains that an efficient armed force in the island would make the navy's task much easier and might even replace the latter as the principal protection for the island's coast line. As matters stand to-day Cuba is one of the weakest points in our line of defense. She has one harbor on her south coast (Cienfuegos) entirely destitute of defense, and another (San-

tiago) whose only defense consists of four Hontorio 16 centimeter guns taken from a Spanish war vessel. All the harbors on her north coast are defenseless with the exception of two (Havana and Bahia Honda). Of all the harbors of Cuba, Havana is the only one that might, at the present time, offer resistance sufficient to hold a hostile fleet in check long enough to permit United States naval forces to come to her assistance. It is to be presumed that Guantanamo and Bahia Honda will soon be adequately fortified, but with these two points fortified and the remaining harbors of the island in a defenseless or semi-defenseless condition, the United States is not in a position to easily protect her own interests or those of the island of Cuba. Cuba is gradually but surely coming to regard the United States in her true capacity of a guardian of the rights of both countries and she has ceased to search for ulterior motives for the protection the great republic to the north gives to her little sister to the south. There is a great deal of national spirit in Cuba, and it is beginning to appreciate that the United States constitutes the former's only guarantee of an independent existence while, at the same time, it smarts under the pain and mortification that result from the knowledge that the island republic within itself has not the power of self-preservation, but must depend on another for its continued existence. What self-respecting person would not rather fight for himself than have another fight his battles for him, and what man would stand idly by and see another fight for the honor of his home and family? The knowledge of their weakness has, of itself, the effect of making the Cubans all the more eager to show every pound of strength they possess, and they would fight to the last in aiding the United States to repulse any attempt at foreign invasion of their shores.

The time may come when the United States may secure by treaty, if she so desires, the right to establish naval or coaling stations or to fortify every harbor of Cuba, but this is quite unnecessary and that time is still some years distant, for, although Cuba now recognizes the disinterested attitude of the United States, there is still that desire to be in sole occupancy that is natural to every newly established household. In the meantime, the fortifications the United States are thus prevented from erecting should be in some other manner provided for or their functions should be performed by some other arrangement. The present defenseless condition of Cuba's

harbors, flanking our eastern coast line and guarding the entrance to the proposed isthmian canal, constitutes a menace to the nation that should not be permitted to continue. As matters stand to-day we have driven one enemy out but we have not closed all the doors against another enemy coming in, and Cuba independent would present more dangers in a foreign war than would have been presented by Cuba under Spanish rule, except in the possible case of Spain having been allied with our enemy.

The Cuban Army is not only the logical and proper substitute for United States forces to fortify and defend the Cuban coast in conjunction with the United States Navy, but it is the ardent wish of every patriotic Cuban that the island may be self-protecting in as large a measure as is consistent with its resources, and it is the object of this article to point out the necessity and methods for so materially increasing the efficiency of the Cuban Rural Guard and Artillery Corps that they may assume this task. A knowledge of these forces as they exist to-day and a thorough understanding of the Cuban military possibilities will reveal how necessary this is on the one hand, and how possible it is on the other. The first, as its name implies, is a rural police force and it is well fitted to perform the special duties of such a force, but in its present state of organization, administration, instruction and discipline it is far from constituting an efficient force for repelling invasion or for organizing, equipping and instructing a volunteer force in case of necessity. The second, now under the instruction of an officer of the United States Artillery, will continue to make such progress as the limitations of the individuals comprising it will admit of, but, if it is to become and remain a highly efficient artillery force, other means must be employed than those existing in the island for the careful education and training of an officer of modern artillery. There is no lack of military instinct in the island, and it is quite probable that, if left to themselves, the Cubans would eventually work out a system by which their little army would become fairly efficient; but it would be by a tedious and unnecessary process, and much valuable time would be uselessly lost.

The material of both these arms is excellent; the Cuban soldier is proud of his profession, punctilious, intelligent and amenable to discipline. The officer is all that would be expected of an officer chosen from among such soldiers; he is

neat and well-groomed in excess of his pay; he is ambitious to learn and if his progress is limited so are his opportunities; he is deferential to his seniors and exacts deference from his juniors; he is honest, hard-working and conscientious, and he and the men he commands are respected and admired throughout the republic. The pay, allowances, etc., of the enlisted strength, under the present organization, are practically the same as in our service, and this and other conditions make the opportunities especially favorable for raising the Cuban Army to as high a standard of efficiency as our own possesses. That this is practical, the writer feels confident from six years' acquaintance with Cuban troops and from his experience in organizing a troop of Cuban cavalry as an experiment, in 1899, at Santiago de Cuba. The individual members of this troop made as good or better progress in all forms of instruction than was made by recruits for our own army at the outbreak of the war.

When the Rural Guard was recruited to its full strength, under the law increasing it from little more than one thousand men to three thousand men, in the summer of 1903, it was intended to give these recruits some weeks or even months of instruction in dismounted and mounted drill at the recruiting stations; this instruction was to have embraced everything up to and including the school of the squadron for the cavalry and the school of the company for the infantry. Just as this plan was about to be carried into effect, a few small disorders occurred in Santiago province, because of the delay in the payment of the Liberating Army, and the government ordered the immediate enlistment of the recruits and their distribution among small detachments throughout the island. They are now divided up among 244 posts with an average of approximately twelve men to a post; they received practically no instruction before being so scattered, and some of them have not even yet received their horses; it will be readily seen how impossible it is to give them any material instruction, now that they are so widely distributed. They know how to stick on a horse, if not how to ride; how to follow the trail of a bandit or other refugee from justice, and to look out for themselves well and their horses indifferently while doing so; and how to shoot at point blank range with some probability of hitting; but this is about the limit of their military training. There are exceptions, to be sure, but I am speaking of the Guard as

a whole. So far as instruction is concerned, the division of the Corps into companies and regiments might as well not exist, and it will be practically impossible, under present conditions, to mobilize a regiment, to say nothing of the entire Corps, and conduct operations with so large a unit.

The administration is little better. The supply departments are but imperfectly organized, to say the least; each detachment purchases its own rations from the daily commutation of thirty cents per man; forage and grain are supplied in a similar manner; under existing conditions of the service, and considering the isolated location of many of the detachments, this method might be worse, but the fact remains that there is no machinery for supplying a regiment operating as a unit if the conditions should change. The organization has been changed from that of a rural police force to that of an army without at the same time providing the more complex administrative machinery that the latter must have if it is to be worthy the name. The system of reports, returns, etc., is very defective; the central authority is but indifferently felt, and each detachment commander, often a non-commissioned officer, is left largely to his own resources. The system of military justice is imperfect, is little appreciated and is but indifferently administered. If there is no systematic attempt made to instruct the rank and file, there is still less effort toward providing methods and courses of instruction for the officers. Any attempt at raising the efficiency of the Corps must begin, and we might say end, with providing opportunities for educating the officers, with the certainty that these officers will eagerly avail themselves of such opportunities. The knowledge the Cuban officer has of his own limitations is one of the most hopeful signs for the future of the Cuban Army; he is eager to learn and will show his ability if but given the chance. They read such things as are to be found printed in Spanish, but it does not abound in military literature. The majority of them received such military training as they have in Cuba's wars for independence, a good school and one which taught them much, but it was at its best but a guerrilla warfare, little suited for giving them the experience they so much need to-day in solving so different a problem as is the organizing and training of a regular army. Their lives have been so occupied in fleeing from Spanish oppression or in fighting it, the older of them in two and even three wars, that there has been but little time for reading and study.

Very few if any of them could pass a high school examination, and the majority of them would find a fourth grade examination difficult, if not impossible; the examination they were given when they recently received their commissions was about such as would be given a fourth or fifth grade boy in our public schools. Without going further into details and pointing out the entire lack in some instances and the deficiencies in others of drill, target practice and other instruction; of inspection and discipline, except of a rudimentary sort; of courts-martial and other means of administering punishment with justice; of reports, returns and other necessary administrative papers; of proper equipment and material and a means for preserving and accounting for the same; and of quartermaster, commissary and other staff departments—without dwelling on each of these in turn, it is sufficient to say, as was said in the beginning, that the Rural Guard is a good police force, but that it is little more, nor is there much reason to hope that it will become anything more, under the conditions that are liable to prevail here for some time to come, unless some such action as is herein suggested is taken.

The outlook for the Artillery is even less hopeful. Its present state of organization, instruction, etc., is far superior to that of the Rural Guard, but it will soon have reached the limit of material progress that it can hope to make if restricted to the opportunities presented in the island for the special education and training necessary to an officer of modern artillery. The officer of our army detailed with it has done and continues to do admirable work as an instructor of this corps and the progress it has made is largely due to him, but it is not within the power of any one man to make efficient artillery of such material with no other means than those at his command. It is not possible for the officers of the Corps, with their present technical education (in most instances as limited as is that of the officers of the Rural Guard), to comprehend the most simple of the many complex problems they will have to solve. In the law for the reorganization of the Artillery Corps it is provided that "the President of the Republic will establish a Military School of Artillery" where cadets will receive a course of instruction to fit them for the duties of a second lieutenant of artillery—a very wise provision in the absence of any better arrangement that might be made, but one that will have to contend against great disadvantages and will require many

years before it furnishes a school that will graduate truly efficient officers. It would certainly be foolish to found such a school if the doors of a military academy of world-wide reputation were thrown open to Cuban cadets.

Now the question naturally arises, could such a force as the Cuban Army is to-day, and probably will be to-morrow, if left to its own resources for improvement, be depended on in the event of war to offer any serious opposition to a determined enemy attempting to secure a footing on the island? And, if it could not be, as appears to be the case, how can its efficiency be so improved as to make it a strong auxiliary force for the United States? It should be remembered that the interests of the island are so united to those of the United States that war with Cuba means war with the former, and *vice versa*. The United States, in protecting her own interests, is bound to protect those of the island, and the island is eager to help to protect itself.

In my opinion this improvement can be most easily secured by the following methods:

1. As a temporary expedient the Rural Guard should have an instructor detailed from the United States Cavalry; this is most necessary until such time as there may be competent Cuban officers to replace him, but the detail might then be discontinued.

2. Accommodations should be provided at the United States Military Academy for as many cadets as the Cuban Government may wish to send yearly, at the minimum of expense, and arrangements should be made, through the proper diplomatic channels, by which the Cuban Government may avail itself of such an opportunity. The standard of education in the island is so low that it would be difficult, if not impossible, to find candidates of the proper age who could pass the entrance examination or take the course of instruction at the Military Academy with either credit to themselves or profit for their government; consequently it might be necessary for cadets, before entering the Academy, to take a preparatory course of a year or even two years at some other school. However, this is but one of the many details that could easily be provided for at the proper moment. In my opinion, Cuba should be permitted to send yearly to West Point such a number of cadets that the graduates from among this number would be sufficient to fill all, or practically all, the vacancies

that may occur in the future in the grade of second lieutenant, excepting in the medical and pay departments, only. There are 152 officers of the Rural Guard and 23 of Artillery, making a total of 175, not counting paymasters, surgeons and veterinaries. From this it is easy to form an idea of the small number of graduates it will require yearly to fill the vacancies that may occur in the grade of second lieutenant.

3. The service schools of the United States Army should be thrown open to the present officers of the Cuban Army and the Cuban Government should be permitted to send the maximum number of officers to these schools for the full term of instruction. Some such plan is evidently contemplated for the officers of the Artillery, since the law under which it is reorganized provides that the President "will send one or more officers of the Corps to foreign countries to broaden their military education."

The result of such an arrangement as that outlined above will be not only to make the present rural police force and Artillery an efficient army, capable of rendering valuable assistance in case of war, but also to furnish a school in which may be trained the officers who are to organize and command the larger volunteer force the island is capable of raising and would patriotically raise in case the nation was threatened. In her last war with Spain, Cuba had approximately 50,000 men in ranks at one time and another, but a still larger force could be raised to-day. According to the last census the total male population of the island between the ages of 21 and 45 years is approximately 300,000; of this number about 80 per cent., or 240,000, are Cubans, and 35 per cent. of them, or 84,000, can read and write. It is from the last number that the army has to be recruited under the present qualifications for enlistment, but if the qualifications for enlistment in a volunteer force were made less exacting, as they most probably would be, a formidable volunteer force could be raised in the island, and this force becomes even more formidable on paper when it is taken into consideration that the population of the island will probably double or even treble in the near future, and should eventually be at least ten millions of souls.

THREE STAGES OF ARMY PENOLOGY

By Lieut.-Colonel JAMES W. POPE, U. S. Army,*
Deputy Quartermaster General.

PREVIOUS to 1875, the treatment of prisoners in the United States Army followed the old brutal methods in vogue in the civil prisons of the county and city. In the common room of these noisome dens of crime were herded all manner and condition of criminals from the young first offender to the most hardened and unprincipled villain. The entrance to prison was, in truth, an introduction to a school of crime, served by the most competent teachers, whose thrilling careers, losing nothing in the telling, would inspire romantic desire of emulation.

Equally were soldiers of all classes thrust into a common guard room where the case-hardened "Guard-house" lawyer fastened his polluting touch upon the imagination of the young recruit to the detriment of the service and the moral deterioration of the young soldier.

There were generally in all such prisons loathsome cells in which the contumacious might be thrust, often two or more at a time, not for separation, not even for discipline, but for punishment. And in those days punishment meant suffering. The loathsome crawling company of those so incarcerated insured ample and cruel suffering to all who were not thoroughly hardened.

The whole prison was almost equally infected with vermin and was unhealthy, unsanitary and unsavory.

The treatment of prisoners, civil and military, was in full accord with those drastic ideas of punishment. There was the lash (used *sub rosa*, if not openly) for the civil convict, and the ball and chain for the military. There occurred, also, the not infrequent horror of the branding-iron, the shaved head and the still more barbarous "drumming-out."

The daily spectacle of gangs of prisoners hauling around a military post huge balls and chains and carrying on weary shoulders, back and forth on their beats, logs of wood, would

*For seven and a half years Commandant of the (late) U. S. Military Prison, Fort Leavenworth, Kansas.

appear to have been sufficient to demoralize any community, but, so accustomed and so callous had the garrisons become that such occurrences caused scarcely a comment from even the gentler sex. Such scenes formed part of the routine of garrison life and failed to cause a qualm of pity from anyone.

Brutal methods injure society more than the victims; it is not the suffering of the prisoners that rendered this barbarous system so vicious. Most of the prisoners were thoroughly depraved and deserved all needed severity. The spectacular feature of the system was largely a compensation to the suffering; the most vicious class of prisoners dearly love the spectacular, like being in the eye of the public, take great pride in a pseudo-heroism. It is not the suffering of such creatures, but it is the inadequacy, the ineffectiveness, the failure of the system that was its condemnation.

Many people still believe with those ignorant of the science of punishment that severity, cruelty, and brutality are needed to instill into the minds of convicts a sense of guilt.

Many of the older officers of the Army held to a belief in those harsher methods of punishment long after those ideas had been generally abandoned and condemned, and their unusual and unaccustomed harshness toward prisoners may be accounted for through their having witnessed, during all their most susceptible years, the ball-and-chain gang and worse.

THE SECOND STAGE.

The second stage in military prison discipline began with the establishment of the United States Military Prison, which lasted from 1875 to 1895. The knowledge of and respect for the science of penology grew steadily in the main body of the Army, with the progressive growth of that prison, until the old ideas of cruelty as a remedy for crime had been generally replaced by the conception of reformation as the aim and end of imprisonment. Such progress was made throughout the Army and largely through the influence and example of the military prison, with the exception of a few of the older class of officers.

By the time this great institution had reached its culminating stage, the Army had the finest system of prison discipline of any military force in the world, well worthy to be placed alongside that greatest of all penal establishments, Elmira Reformatory, N. Y. In fact, though developed along

separate and independent lines, the United States Military Prison very closely resembled that institution, including within its instrumentalities all the great reformatory influences of the latter, except that euphemistically called "physical treatment"; no corporal punishment ever stained the annals of the United States Military Prison.

The indeterminate sentence, the aspiration of the prison reformer, existed to a degree of perfection in this prison. By courts-martial, general or garrison, the power to extend the sentence of the inmate was unlimited, so that no prisoner could be discharged without good behavior.

The industrial education was carried to the highest perfection, so that any prisoner leaving the prison after his term of service in one of the shops could earn his living with ease. Some fifteen industries were operated, including such manufactures as boots and shoes, tinware, stone-cutting, harness, carpentry, wheelwright, brooms, iron work, weaving, quarrying, brickmaking, farming.

All the building and other work about the prison was done by the prisoners and much of the repair and most of the common labor for the post of Fort Leavenworth. The Assembly Hall at that post, one of the finest buildings at any post in the Army, was built entirely by labor of the prisoners of the United States Military Prison.

A photograph gallery facilitated the recording of the inmates by the Bertillon method of identification, which was used by the prison in addition to the much less effective card system of the Army. A printing press was also in operation for the printing of the prison reports and other required matter. Excellent school facilities were afforded in a night school held for the prisoners five evenings in the week, attendance being compulsory for all below a comparatively high standard. A fine hospital, under the capable management of an Army surgeon, with prisoners as nurses and attendants, gave ample care to the sick.

An extensive farm supplied the necessary vegetables and gave healthy employment to a large number of the inmates. While such outdoor employment as this and quarrying and brickmaking made the danger of escape considerably greater and while some fifty prisoners did escape during the last seven and a half years of the existence of the prison, still over forty of these escapes were recaptured.

The prisoners were duly classified, and the various classes were not allowed to commingle except during recreation hours and in the shops, where silence was enjoined, the prison being on the Auburn system.

The discipline was maintained by the finest body of soldiers which the Army possessed; three-fourths of the Provost Guard had been non-commissioned officers, none were accepted except those who could show an "excellent" character, and they were given every privilege compatible with their exacting duties, to which they were held with the most rigid discipline.

Such was the second stage of Army prison discipline. But for the fact that, in the interest of a false economy, the prison was located and maintained in a lot of old, unsuitable buildings which it was utterly impossible to alter into structures suitable for a model prison, the United States had a more perfect system of prison discipline for the more serious class of its military convicts than had been known to any army theretofore.

THE THIRD STAGE.

Through the exigencies of a civil branch of the Government in the need for penitentiaries for the confinement of United States civil convicts, this great penological institution was abolished and the structures and grounds turned over for the use of the first United States Penitentiary. With the extinction of the United States Military Prison, the Army entered upon its third and present stage of military prison discipline.

Fortunately the example set by the United States Military Prison and the growth of more enlightened views and the advance in the knowledge of penology, has prevented any return, with the exception of possibly a few cases, to the ball and chain. Fortunately, also, advances in the knowledge of the principles of punishment have compelled an improvement in the construction of guardhouses in which military prisoners are confined, as well as in the care and cleanliness of those guardhouses. Otherwise, the condition of the prisoners and of prison discipline are similar to the earliest stages of penology in the Army. Prisoners are herded together, escapes are numerous, recaptures rare, no industrial education for regeneration of those in confinement; such an idea as a school for the prisoners is never thought of.

The world has not advanced so far in its progress that punishment may be omitted from any system of discipline. Especially in an army, where discipline is so essential, punishment must form a most important part of military discipline. When punishment is resorted to, it should be effective, should be thorough, should be scientific. It is impossible that such thorough and scientific punishment should be administered in guardhouses. Of the two main elements of effective punishment, certainty and celerity, the first and most important is absolutely incompatible with guardhouse methods. The first and simplest resort of the inmate who fears punishment is to escape, which is almost always easy to effect and difficult to prevent. The guard is an ever changing body, and, therefore, there is no certainty that one body will carry out the method or decrees of the other. The guard may be placed over their best friends; they may be in the guardhouse themselves the next day.

In truth, it is impossible that thorough and scientific prison discipline should be administered under the system and with the *personnel* pertaining in post guardhouses. It requires experience and training added to special qualifications for the proper management of prisoners, and none of these conditions are likely to be found about a guardhouse. They are now and always have been entire failures so far as they are intended for the improvement and regeneration of contumacious soldiers; though, of course, they are far superior in every way to most of the county and city jails in management and in cleanliness and good order.

Consider the contrast which this guardhouse system offers to that of the former United States Military Prison! Then consider further that, in this day of wondrous changes in so many directions intended for the betterment of the Army, with the knowledge and the example of a former almost ideally perfect military prison system, we allow our military prison discipline to remain under the wretched guardhouse management for all classes of prisoners; a system which would be equivalent to long term civil convicts being placed in county and city jails, which all reformers reprobate, and which lowers the Army penal system to the level of the worst in the country.

In view of the present transition state of the Army, of the many recruits and the few old soldiers and non-commissioned officers, the many young captains in command of companies,

the alarming number of desertions, it is especially important that the discipline of the Army should be perfected as far as possible. To effect this end there is nothing more necessary than the introduction and organization of a higher grade of penal discipline, such as the Army had during the existence of the United States Military Prison.

THE NEW NATIONAL GUARD*

By Colonel JAMES RICE, I. N. G.

WHEN ORDERED INTO THE UNITED STATES SERVICE.

IT is not just to charge the National Guard with delay in fitting themselves to take the field in the Spanish War. Let this be illustrated by the action of the contingent from one of the States, Illinois. The Secretary of War, on April 25, 1898, notified the governor that he would want from that State seven regiments of infantry and one regiment of cavalry, and asked when the troops would be ready to be mustered into the United States service. On the same afternoon, between six and seven o'clock, the governor issued his order for the assembling of troops for war service, and on the next day wired the Secretary of War as follows: "Can you send us blankets at once, about two or three thousand, or will Illinois buy them on account of the National Government? Please answer quick."[15]

In reply he learned that no blankets or other property could be legally furnished until the troops were mustered into the United States service, when they would be supplied as early as practicable.

Thirty-six hours after the President's call was issued, the governor wired the Secretary as follows: "Seven regiments of infantry and one of cavalry are mobilized at Springfield. Approximate strength, eight thousand. Await further orders." This was the full number desired by the President.

These troops were anxious to take the cars at once for the fighting line for two years' service in a foreign war, and those who had been in the service of the State before war threatened were fairly well equipped for this purpose as far as things within their own control were concerned; but as their number had been suddenly increased from 5000, as they were before war threatened, to 8000, there was of course 3000 recruits not equipped. That the Federal Government was not prepared to furnish these equipments promptly, or even permit the governor to partially do it at his request, and that they were armed

* Continued from May JOURNAL.

15. Report of Adjutant General of Ill., A. D., 1897-1899, page 22-36.

with old-fashioned black-powder rifles, shows lack of preparation by the United States Government, and was not the fault of the troops. In an emergency, the original 5000 who were equipped could have been forwarded to the scene of action at once, leaving the 3000 recruits to be examined, mustered, equipped and forwarded later as already suggested.

I am convinced that ninety-eight men out of every hundred of the National Guard, of Illinois at least, would favor the amendments here proposed. They are in the Guard for the purpose of going to war whenever and wherever needed.

If the necessary amendments were made now, men who wish to defend their country and its laws wherever wanted, at home or abroad, in State or National service, would connect themselves with the Guard, and if there should be any in it who do not feel willing to do this they would withdraw.

All of the new laws that pertain to medical examination and remustering might well be stricken out of section seven, and the fourteenth section, which specifies who shall participate in National appropriations might be amended by inserting fit words limiting the benefits to organizations whose men shall have passed the regulation medical examination for soldiers enlisting in the regular army, and shall have taken the proper oath to support the Constitution and laws (including treaties) of the United States, as well as of their State wherever needed, and to obey all officers lawfully placed over them."[16]

It is necessary for the proper enforcement of discipline that every command which a soldier is expected to obey shall be known to come from an officer having clear and undoubted authority to issue it. It should be distinctly addressed to the one who is to obey it, or to all the members of the military organizations of which he is a member. It should state clearly and distinctly the duty which he is to perform, and it should be expressed in the well-known form of an order, so that there can be no doubt that it is intended as such. To leave any doubt on any of these points is demoralizing.

Many men have been court-martialed for disobedience when ordered out under the provision of the statute authorizing the President to call out the militia as it existed for a hundred years, and the proceedings have been held valid by the

16. 12 Gray, page 618.

Supreme Court of the United States; but it has been done only in cases where a military order has been issued specifically showing who was meant.

Section four should be so amended that the President might issue his call upon the governor for troops, whereupon the governor would at once detach and order the required troops to report to such military officer in the service of the United States as the President should direct,[17] or the President might (as always has been and is now the law) issue his order direct to such officer of the militia as he might think proper. The call upon the governor for troops would be in the nature of a courteous request with a high moral sanction and a remote possibility that it would not be complied with. If the call were not successful, the other alternative of a direct order to the National Guard themselves would probably quickly follow, and be promptly obeyed.[18]

Section seven might then be so changed that "every officer and enlisted man of the militia *ordered* into the service of the United States in either of the ways hereinbefore prescribed should be held to be in such service from the date of the publication of such order (not "call"), and should be subject to court-martial for disobedience of such *order*."[19] Then the militia so ordered would at once become *National Militia* and by the force of the Constitution alone the President would be their Commander-in-Chief.[20]

EXAMINATION OF APPLICANTS FOR CERTIFICATES OF MILITARY EFFICIENCY.

That a part of the new law which provides for the examination of "all applicants who shall have served in" the National Guard, the regular or volunteer army, and graduates of military schools for certificates of qualification for office in the expanded army that must be raised in case of a great war, seems to imply

17. Cooley on Constitutional Law, page 89: Pascall's Annotated Constitution U. S., 171: Winthrop's Military Law, page 1089-1090, vol. 1: Story on Const., vol. 2, sec. 1215 N., 1490-1492: Rawle on Const., 111, 112, 193 and 194: 2 opinion Attorney General of U. S., 711 and 712. U. S. *vs.* Eliason, 16 Peters 291.

18. McMaster's History of the People of the United States, vol. 4 page 2.

19. Houston *vs.* Moore, 5 Wheaton, page 17, 20 and 21: McCall's case, 5 Phila. 262 and 265: Story on Const., Sec. 1213: Rawle on Const., 153 and 160: Sergeant's Constitutional Law, 331: Mills *vs.* Martin, 19 Johnson, pages 9, 25 and 26.

20. Houston *vs.* Moore, 5 Wheaton: Martin *vs.* Mott, 12 Wheaton 29: Luther *vs.* Borden, 7 Howard 43-45.

that the examinations cannot be taken by members of the organized militia without withdrawing from it, and the inference might be drawn that one holding such a certificate would lose the benefit of it if he connected himself with the Guard.

Members of the Guard should be permitted by statute to obtain and hold these certificates and be entitled to the precedence over others, except the army, when the time for enlarging the army comes, and might enjoy the advantages conferred by this section while retaining their connection with the Guard. All but one of the members of the first militia company that went from Peoria into the Civil War became commissioned officers before the war ended, and he who went out as their first sergeant continued in the service afterward until he became a major-general in the regular army.

The Guard needs the service of all such men to assist in properly developing it, and ought not to be depleted of its best officers or men by drawing them off into this class of persons. These holding certificates would be very much improved by taking part in the exercise and duties of the National Guard and keeping in practice, even though it might be in positions much lower than their certified rank. If such men were in the Guard their certificates would have a tendency to secure them promotion and to give the Guard a better grade of officers. Every inducement ought to be offered to retain them in the active militia, and it can be easily expanded so as to accommodate them all. Otherwise they are not subject to military discipline, State or Federal, and cannot be made so.

Except a few so-called *élite* corps, the organized militia never proved of much value until the returned soldiers of the Civil War went into it, and it never could have done so without them; and the returned soldiers of the Spanish War and all future wars ought to be used in this way, otherwise the National Guard is bound to lose its efficiency. Washington, in 1795, urged as one reson why an organized militia should be provided for at once, that the soldiers who should assist in organizing it were wearing away.

The National Guard seems to be principally relied upon to enforce law and order in case of mobs and riots, and there is no service that any soldier is ever called upon to perform that is more disagreeable or that requires greater coolness

and discipline than this. Officers and men must often act instantly on their own judgment without opportunity for a council of war or consultation with legal or other advisers,[21] and a fight begun that might have been avoided by cooler troops is likely to cause the unnecessary loss of many lives of good citizens on both sides; and, on the other hand, a failure to stand firm might result in a still greater loss of life and the destruction of our flourishing cities. Witness the Pittsburg riots of 1877, costing Alleghany County more than four million dollars, the Cincinnati riots of 1884, and other occasions when many lives were lost and much property destroyed. Only experienced men can be cool and amenable to discipline. To expect anything else is unreasonable. To preserve our lives, our homes and all we hold most dear, legislation should be so shaped that as many as possible of such experienced soldiers may be retained in our National Guard.

THE SPIRIT OF THE CONSTITUTION.

In preparing legislation for the National Guard it is important that all questions be considered, not from the military standpoint alone, but also with reference to what will be the most conducive to the honest, free and independent working of our civil governments, Federal and State, and what will be for the best interests of our citizens; for the military force exists for the protection of the Government, and the Government and the force both exist for the benefit of the people, at least in the United States. This is the beauty and great merit of our system.

In drafting the Constitution the intention was to give Congress and the President exclusive control at all times of the only army[22] that was to be permitted to exist in the United States in time of peace; but it was not expected that this army would be regularly maintained of sufficient size to carry on a war.

It was intended that the militia should be so organized, armed and disciplined, that when needed for war on any proper occasion, it could be used at once by the President for any and all legitimate purposes and in any and all ways,

21. State *vs.* Coit, 8 Ohio, S. &. C. P., December, 62.
22. Const. of U. S., art. 1. sec. 10, par. 2.

and anywhere in the world that military power might be wanted.[23]

To secure the possibility of harmonious action and efficiency when so used it was provided that the militia of the several States should all be organized, armed and disciplined according to one body of laws, which, of course, should be enacted only by Congress. On the other hand, and this is of vital importance to the just and equitable working of our free institutions, it was intended that the entire military force of the country should not in time of peace be under the centralized personal administratiion and control of any one man or set of men,[24] for the Convention well knew that even under the best of men all kinds of centralization would lead to the building up of a great personal following, or a personal machine by the use of patronage, and this is sure to result in favoritism to some and consequent injustice to others. That this result universally follows can be seen in all ages and anywhere.[25] These evils of centralization are unavoidably increased in military matters by the great personal subordination of the soldier, and by the fact that he cannot be permitted to criticise his superiors. This is what made such a trial as that of Dreyfus possible in France, and that is what makes life unbearable and the people unprogressive in Russia under the most humane and well meaning of czars. It would also have a tendency to crush out the valuable power of the initiative in all our American soldiers—a government by the people, for the people must be kept close to the people.

The men and fathers and grandfathers of the men who drew up the Constitution had had a great deal of experience with the favoritism of centralized administrations in almost every nation of Europe, and sought to prevent it as far as possible in time of peace, at which time it is more dangerous and less useful than in time of war.[26]

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23. Flemming *vs.* Page, 9 Howard 603 and 615: Story on Const. U. S., Vol. 2, Sec. 1490-1492.

24. Fiske Civil Gov. in U. S., 174.

25. Jefferson's Works, vol. 7, 13 id., vol. 6, 544: Fiske Civil Gov. in U. S., page 174.

26. First Blackstone, 413: Montesquieu Spirit of the Laws, book 11, chapter 6, pages 173-184 and 185: De Tocqueville's Democracy in America, part 2, book, 4, chapter 4, pages 317 and 321: Lieber's Civil Liberty and Self-Government, chapter 11, pages 113-120, chapter 34, pages 389-398: Hamilton in the Federalist, No. 29, page 132: Magna Carta of King John, chapters LXX to LXXV: Green's Short History of the English People,

That the laws may be uniform, Congress has power "to provide for organizing, arming and disciplining the militia." This means that it may enact the necessary laws for this purpose. The legislative control is in Congress, which cannot be injurious, as laws bear equally on all.

On the other hand, the administrative control in time of peace, and the appointment of officers always, is in the State executives, which are too numerous and independent of each other to be very dangerous or injurious to the whole.[27]

No part of the Constitution of the United States (which has been called the profoundest work of the human intellect) is worded with greater care or with more scrupulous jealousy than that which grants and limits the power of Congress over the militia.[28] It should be carefully studied and its spirit and letter faithfully carried out.

It is believed to be not contrary to the letter and spirit of the Constitution for Congress to make appropriations to equip and supply the organized militia, and (if done in the proper spirit) to prescribe equitable statutes under which, and only under which, the Guard may avail themselves of these arms and supplies.

Congress may properly require the Guard to be organized according to its laws, may say of what age the man must be, may provide that they must be men who have passed the regulation medical examination, that they must be troops that preserve such discipline as to make them efficient, and that they may be troops who have taken an oath to support the Constitution and laws of the United States at home and abroad, and obey their lawful, superior officers, whether State or Federal, before the Government shall furnish them arms or other supplies. This examination and these oaths should be made before the arms and equipments are furnished, so that

pages 154-177: Hallam's Middle Ages, vol. 2, page 315: Opinion of Attorney-General of U. S., Vol. 9, page 518, id. page 11 (18 April, 1861): Journal Military Service Institution, September, 1894, pages 912-916: id. November, 1896, pages 473-474: Blackstone, book 1, pages 408 and 409: 4 Elliott's Debates, 459 and 460.

27. Ogden *vs.* Saunders, 5 Wheaton, 313: Dunn *vs.* People, 94 Ill., 126: Houston *vs.* Moore, 5 Wheaton, pages 49, 50, 51 and 54: First Kent's Commentaries, 387, 244, 250 and 265: Passenger Cases, 7th Howard, 383 and 273: Presser *vs.* Illinois, 116 U. S., pages 267-269: Meade's Case, 1st Brock, 324-327: Story on the Const., 1007: Elliott's Debates, 444, 464, 465 and 467:

28. The Works of Daniel Webster, vol. 2, page 95: 14 Gray (80 Mass.) Reports, 614: Dunn *vs.* The People, 94 Ill., 136: Lieber's Civil Liberty and Self-Government, chapter 23, page 277.

troops upon which the general Government has spent money for years, will always prove efficient when suddenly needed, and will never be found—men, arms and experience—all on the wrong side. Then under the new law with these amendments the *New National Guard* will become a very efficient "National Defense."

A PRACTICAL COURSE OF INSTRUCTION IN SECURITY AND INFORMATION.

By Lieut. GEORGE W. WINTERBURN, U. S. Army, Ninth Cavalry.

THE "Eyes of the Army," to properly perform their functions, must be endowed with perfect vision and sleeplessness. To develop these traits so as to see things of military value as they really exist, will require constant instruction and training of every member of the cavalry arm, and more particularly those who will be intrusted with command, either large or small.

This training should consist in thoroughly instructing the members of the cavalry branch of the service in the knowledge that will tend to make them quickly discern the exact tactical value of every point or movement within their vision; to know exactly their position and to determine what certain signs, met with, indicate.

In future wars of any magnitude cavalry will be called upon, to a greater extent than ever before, to furnish all the information upon which the commander of an army will plan his battles and marches; and possibly the next great war will more fully determine the true value of the cavalry screen and deductions from its results formulate some definite rules and principles for its formation and conduct.

To prepare for emergencies and to make the test a decisive one in all particulars, and one, if failure should follow, that will not be attributed to the cry of "recruit" or lack of proper instruction, the officers, non-commissioned officers and enlisted men of our army, and especially the cavalry arm, should be carefully instructed and drilled in those duties which will prepare the way for the great battles and govern the strategic movements which will precede each conflict.

To accomplish this a practical course of instruction in "Security and Information" under direction of the troop officers, should be prescribed for the non-commissioned officers of each troop of cavalry. Of course, preliminary to this, it is to be understood that each commissioned officer is fully

acquainted with these duties and is, in every way, endowed with the information and means of imparting the same to the student non-commissioned officers.

The course, while practical, will of necessity have to rest upon the theoretical instruction gained from text-books, and this once thoroughly mastered, should be followed by a practical course so thorough and exhaustive as to make it second nature for the soldier to carry out the ideas governing, under all conditions, especially in time of active service, when in the face of the enemy, one has to think and act quickly.

The course should be divided as follows:

1. In the class-room (theoretical).
   (*a*) Lessons in "Security and Information."
   (*b*) Lessons in map reading.
   (*c*) Exercise upon the map.

2. In the terrain without troops.

Here the instructors should practically illustrate that which has been studied in the class-room.

3. With troops in the terrain.

The non-commissioned officers should be placed in command of various detachments of the troop, given orders and left entirely to their own resources to accomplish the objects desired.

1. In the Class-room.

The lessons in "Security and Information" should be of such length as not to tax the capacity of the men, for amongst the non-commissioned officers of our army will be found a wide disparity of degrees of intelligence; but I think I am safe in saying there will be found no lack of a desire to learn and of the necessary application.

Each point should be explained carefully and fully as met with, for at first there will be found a hesitancy amongst the men to ask questions, and they will pass doubtful points unsolved rather than display their ignorance before their comrades. However, as time progresses and interest is aroused this will be overcome.

"Specking" should not be exacted and each student should be allowed to express himself fully in his own way and the instructor rather be sure the student had mastered and

thoroughly understood the meaning of a paragraph, than that he had the exact words of the book.

No system of marking should be countenanced, and instructors could fully determine the proficiency of each student, without causing the rivalry displayed in the gaining of a high mark.

In conjunction with this the fundamental principles of topography should be taught, but if this is not done the students should be taught to read maps promptly and accurately.

Patrolling should be the principal theme and the salient points fully and indelibly impressed upon the student's mind.

As non-commissioned officers will more often be called upon to command small patrols, the conduct of such patrols should be carefully outlined, impressing upon the student's mind the various objects they are to accomplish, and that the particular object of each patrol as detailed in their original instructions should be first and foremost; that if this object is to gain information, then every other consideration should be cast aside and the information gained.

The general rules governing the use of cover are fully illustrated in the text of "Security and Information," and while, with some, the theoretical instruction is of great value, it will be found that the only real and sure method of imparting such knowledge is in the terrain, where it can be practically explained and demonstrated.

In the writing of messages, which is of such great importance, the instructor should first prepare a model, and its reproduction should be exacted thereafter, that is, as far as the general form of heading and signature is concerned.

Certain conditions should be assumed and messages written by the instructor covering this information. Not one, but many, should be written to impress the style upon the student's mind.

Messages should then be written by the instructor and handed to the student for interpretation. In this every point should be brought out and by repetition the habit of carefully scrutinizing orders will be instilled.

General principles governing the formation and conduct of advance guards, as well as those governing the outpost, should be studied in every detail, especially the rules which cover the selection of the lines of resistance and observation.

Special attention should be given to the duties of sentinels

as regards the instructions detailed in the text-book—impressing upon the student that the first consideration is to see, even at the cost of being seen.

Signals, including those contained in the "Drill Regulations," "Security and Information," and any which might be improvised should be practiced constantly, as these, like other drill, are easily forgotten.

The instructor should prepare descriptions of points well known to the students, and in reading them to the class, attention should be called to the various details. Students should then be directed to describe other points, such as bridges, roads, etc., with which they are familiar.

The horse, the cavalryman's companion, should receive consideration throughout and the ways and means by which a reconnaissance should be conducted, mounted, clearly defined—this as to leading, selection of routes, methods of grouping, etc.

Such parts only of the text-book should be covered as apply to the commands which a non-commissioned officer would be called upon to exercise in time of war; and until the student has mastered the details and conduct of small commands, his mind should not be burdened with the duties of a brigadier-general.

After the text-book has been thoroughly studied and reviewed and the students are familiar with maps and able to read them, maps should be provided and problems given for solution. They should cover every department of "Security and Information" and be conducted on the lines suggested in the article on "Patrol Duty," by Captain Dickman, 3d Cavalry, published in the *Journal of the U. S. Cavalry Association*, March, 1898.

Also a large map should be provided and placed upon the wall of the class-room, and entirely covered with glass. The problem is then given the student and he is directed to mark upon the glass, covering the map, with brush and paint, the positions of the various bodies composing the advance, guard, outpost, etc.

After completion the problem could be discussed and the attention of the students called to the advantages and disadvantages of the positions chosen.

2. In the Terrain without Troops.

After the theoretical course is completed, the students should be taken into the terrain, mounted and properly equipped.

Military maps of the country occupied should be provided and each student made to orient himself. Then various points of the terrain should be located on the map. This should be part of the lesson each day and should be continued until each student can quickly and accurately orient himself and determine points and distances without the slightest hesitation.

The instructor should prepare before going out the first two or three times, brief, clear descriptions, from a military standpoint, of the country, as seen from certain points. These points should be occupied and the description read to the students and their attention called to the various points as referred to, at the same time pointing out the tactical value of each.

During later lessons the students should be directed to write brief descriptions of the country to their front, after the model already submitted. Ample time should be given for this at first and the men trained to cover the ground from left to right, in clockwise fashion, and not to jump about indiscriminately.

Students should be asked in turn how they would reconnoiter a certain section of the country, starting from the point then occupied. When there is cover at all, there are always several equally good ways to accomplish the same result, and it would not be best to select one route as the only way. To practically illustrate, occupy the point to be reconnoitered and direct several of the students to approach it—some by the routes affording ample cover and others over routes selected which were lamentably bad. As men move along the various routes, attention of the class should be called to the advantages and disadvantages of each.

They should then be directed to select positions for outposts, pointing out the lines of resistance and observation; positions of supports, pickets and sentinels.

The various positions designated should be occupied so that the selections can be better criticized.

Students should be directed to select points at which a

patrol could meet in case it were dispersed, and points they would occupy to gain a commanding view of the country.

As the students proceed from point to point in the terrain one of them should be placed in command and told to conduct the class, as a patrol, to the next point.

Careful attention should be paid to the formations taken and faulty dispositions corrected. Students should command in turn, so that all will have an opportunity to demonstrate their ability. As enclosures, houses, bridges, etc., are passed a reconnaissance of each should be made under the direction of the student then commanding, and the methods adopted, criticized by the instructor.

It should be assumed that an advance guard of cavalry was advancing along a certain road or route and flankers and flank patrols sent to either side. It should be observed whether or not these groups and patrols are properly conducted, the commanding points occupied, etc.

Strong flank patrols should be formed and in this it should be noted whether the proper roads are occupied or not.

Through all the foregoing formations the signals should be used constantly, and when the groups are separated, connecting files established, and signals constantly exchanged.

Also should the manner in which the horses are handled be noted, especially as to the manner of grouping and leading, as strict compliance with the methods laid down in the Cavalry Drill Regulations will be excellent training for both men and horses.

Some distant point should be selected and the class directed to disperse and reassemble at such point at a certain time. The point selected should be at a distance and one that cannot be kept constantly in sight. The instructor should occupy the point and observe as far as possible the manner of approach and also time of arrival.

In moving from point to point the instructor should carefully observe the ground passed over, making mental note of the various points of tactical value. The students should be questioned from time to time to ascertain whether or not they have also observed these points and to give descriptions of the same. By applying these questions often, the students will take note in anticipation thereof, and this will later bring about the desired result—that of constant observation.

The various methods described in the text for ascertaining

the points of the compass should be practically illustrated, as this is of especial value.

Instruction in the terrain without troops should continue for such a period of time as will enable the instructor to cover, practically, all the duties of "Security and Information."

3. With Troops in the Terrain.

Various problems are prepared, the solving of which is left entirely to the students, the orders and ideas being clearly outlined, the student given a detail and left to his own resources.

All manner of problems should be given covering every department of "Security and Information." Conditions should be made to as nearly simulate the real conditions of war as is possible.

Special attention should be given to the carrying out of orders, and their proper interpretation should be always exacted.

Care must be taken in the preparation of such orders to see that they are perfectly plain and that if carefully read there can be no possibility of misinterpreting them.

The problems given should be thorough and complete, and besides the main object, as specified in the orders, they should include the preliminary instruction and inspection of the detail or detachment.

In the conduct of small patrols there is a tendency amongst non-commissioned officers to forget the original object of their patrol and resort to the capture of prisoners. This is particularly noticeable unless special orders to the contrary are given. This not only occasions the miscarriage of orders and upsets plans, but is the source of much argument where umpires are not right on the spot.

When the object is to capture prisoners, then the work should be carried out as prescribed and much care should be taken by umpires when rendering decisions, as many of the methods adopted by the men would, in time of war, cause a special factory to run day and night, for the manufacture of medals of honor—whereas in reality the whistle of a single bullet would change many reckless, daring scouts into discreet, conservative soldiers.

In large cavalry patrols special attention should be paid to the detaching of scouts, in pairs, to scout the country at a

distance. A non-commissioned officer should be in command of each of these detached pairs, with instructions to report to the commander of the patrol at a certain point, at a certain time. As each pair rejoins the patrol its commander should make a verbal report to the patrol commander in the presence of the instructor.

This method of scouting should receive special attention, as it is a duty of paramount importance to every cavalryman. Large territories should be covered, and the scouts in no way hampered, but permitted to exercise their own judgment as far as possible, after the general directions have been given them.

After completion of a problem a report should be made verbally to the instructor. Generally, in active service, non-commissioned officers in command of patrols will be called up immediately after their return, to make report of the work accomplished, so that they can be closely questioned. Later, written reports can be sent in.

During problems, which require the sending of messages, such messages should be sent exactly as they would be under actual conditions.

After each problem the non-commissioned officers should be called together and the problem carefully discussed, messages read and attention of the students called to the points needing correction.

The ground selected for the exercises should be changed as often as is possible. There is a general tendency to operate on too small a space. This is especially true where cavalry is concerned.

The country to be covered should be of ample area to allow a variety of solutions in patroling problems, and not of such dimensions as will necessitate the starting of opposing forces almost on top of each other.

Problems should not be cut-and-dried affairs, but should cover such an extent of country as will allow the non-commissioned officers to exercise care and discretion in the approach and reconnaissance of a position.

The troop should be turned out to act as an advance guard, with the special object in view, of affording practice for flanking groups and the conduct of the point.

Patrols should oppose this advance guard with orders to appear at certain points along the route selected.

The march should cover several miles of country and should be of such duration as will enable small patrols to be detached and cover a considerable territory, joining the column at a point two or three miles advanced.

The advance guard should be halted and an outpost formed once during each march, the non-commissioned officer in command being changed each time. The dispositions should be complete and after the non-commissioned officer in command has reported that all dispositions have been made, the outpost should be thoroughly inspected by the instructors and commented upon.

Several times during this course of instruction night patrols should be sent out with instructions to proceed to a certain point. The ground to be covered should not be too well known to the men, but ground which had been operated over only a time or two previous to the night attempt. This will disclose whether or not the student has made observations of such value as will help him to move from point to point in the dark.

The time allowed for the solution of the foregoing problem should be limited.

Instruction in night patroling and outpost duty should be given. This is mostly gained from theory, whereas, in reality, outposts for small forces are of necessity often posted at late dusk during actual campaigning.

My experience in the Philippines has taught me that except with the most seasoned troops, the line of observation falls back upon the line of resistance in a most disorderly fashion and in every way except the right way.

Time and time again, on account of non-compliance with the rules of observation, have the various groups of outposts of the same force fired at each other all night long, whereas if the proper observations had been made during the day such firing would have been avoided.

Some position fairly well known should be selected and an outpost posted thereon during the night. Particular attention should be paid to the positions of the sentinels and that the pickets, supports, etc., occupy their proper positions guarding the roads; also that intervening ground is properly patroled.

A signal for attack should be given with a view to a prompt and orderly occupation of the selected line of resistance.

During all the exercises in the terrain with troops, both

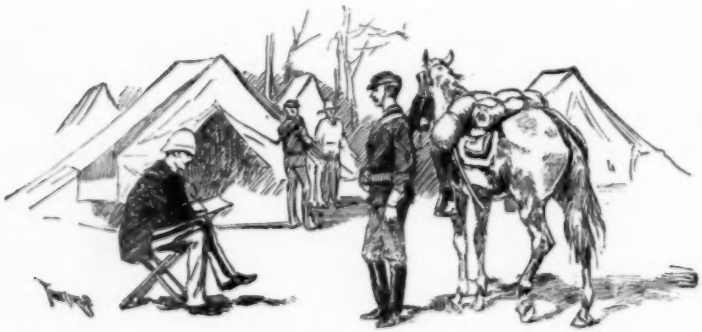
night and day, the instructors and non-commissioned officers should observe carefully the manner in which the horses are handled. Too much attention cannot be given this important duty. It is needless to detail the methods here, as they are described in detail in the various books of instruction. Let it suffice to say that the trooper who is ever thoughtful of his horse will be the one to execute other duties assigned him in a thorough, intelligent manner.

When the garrison is of a size to permit it, and bodies of troops are marched to and from drill, along the various roads of the reservation, the student non-commissioned officers should be taken to a distant point, where such roads can be observed, and by the various rules laid down in "Security and Information" estimate the strength of the marching columns.

The theoretical course of instruction prescribed herein could be taken up during the winter months, when the inclement weather forbids field exercises, dividing the course so that the problems on the maps will take place in the early spring.

Available days in the spring could be utilized for the exercises in the terrain without troops and the summer and fall devoted to exercises with troops in the terrain, completing the course just before the fall maneuvers.

The course should be covered yearly, excusing only those non-commissioned officers from the theoretical instruction, who have established their proficiency.



MILITARY INSTRUCTION FOR SCHOOLBOYS.

By Lieutenant JOSEPH T. GRIFFIN, 14th Regiment, N. G. N. Y.

SENATOR PETTIGREW, in a recent interview, expressed the opinion, as a result of an extended study of the public school system of Japan, that the advancement of that nation has been due, not only to the prevalence of education among the masses, but to the fact that military training has always occupied a prominent part of the school work of the Japanese youth.

It may seem odd that an Oriental nation should in any way be held up as an example to a people of the Occident; yet it is a fact that in this one instance, at least, the progressiveness of America is not equal to that of Japan.

Not that the military training of schoolboys has not been frequently discussed, often attempted and occasionally adopted in this country; but there has not been developed a sufficiently potent public opinion to render possible its permanent and general adoption throughout the nation.

There are many reasons to account for this; principally, that the population of the United States is largely of foreign importation or extraction; that in those foreign countries from which this immigration flows, the burden of militarism has been a grave one, and it is not surprising that those who have suffered under the oppressive weight of a cumbersome military system abroad, should be strongly opposed to anything which might approach a like condition in the country of their adoption.

On first consideration this sentiment may appear unworthy of serious consideration; but it is possible to adduce proofs to show that this sentiment has been sufficiently strong in legislative halls to block, retard, or limit legislation increasing the military resources of the United States. We must, of course, recognize the fact that reasons of public economy also entered largely into the causes which have restrained the increase of our military strength.

These same influences are still potent to-day. For that

reason any proposition to introduce military training into our public educational institutions has either been vigorously opposed, or lukewarmly endorsed by local boards of education and college trustees.

Many efforts have been made by the New York Legislature to make military instruction in public schools compulsory. They have failed. Vigorous members of local school boards have attempted to have such instruction made part of the curriculum of the schools under their present jurisdiction. These patriotic but impotent appeals have been abortive in most instances.

There is only one solution of the problem, and that is, the awakening of a public opinion of sufficient cohesive force and accumulated energy to overcome such objections of a sentimental or economic nature which may stand in the way.

There has recently been enacted in New York State a compulsory education law of a very comprehensive character, making it a penal offense for parents to deprive their children under fifteen years of age of the elementary school education. In 1805 the Public School Society was formed in New York City of philanthropic gentlemen who, out of their own pockets, established the first public school in New York City for the free education of the children of the people.

The period that has elapsed between the establishment of this first free school as a private charity, and the enactment of a rigid law, which not only puts upon the people of the State the duty to maintain a sufficient number of schools, but makes it a crime for a child not to take advantage of their benefits, represents the time it has taken—nearly one hundred years—for a sufficient public sentiment to be aroused to recognize the principle that the elementary education of the future citizens is an absolute duty resting upon the people of the State.

Before discussing the possibility of arousing such a public sentiment for the military, as well as the elementary, instruction of our youth, it may be well to consider the question of its necessity: first, as it would affect the State at large; secondly, as it would affect the individual.

1.—The increased importance of the United States has brought with it increased responsibilities. The law of compensation is operative in this as in the other affairs of men or nations. With the increase of our dominions and the more

vigorous expression of our national doctrine has come the necessity for a greater ability to protect those dominions and to uphold those doctrines.

The possibility of an armed clash with foreign powers has become more imminent since, by reason of our foreign possessions, our vulnerable area has been extended and the points of controversial contact have become more numerous.

That it is absolutely incumbent upon us to prepare for such a contingency can be disputed by none save those who wilfully avoid a sane consideration of the facts.

What shall constitute this preparation? Shall it be a large standing army? The objections to this are obvious. The entire public sentiment of our country is against it. We must depend upon the intelligent patriotism of our citizens. But the patriotism, no matter how keen, must be subjected to a proper training. This training should not only include the ordinary marchings and exercises in the manual which form such a large part of the training of our National Guardsmen, but it must include a practical knowledge of firearms and care of the person when in camp.

It has been the experience of all our wars that more soldiers have fallen through disease than by bullets. How many hundreds of lives might have been saved in the recent war with Spain if our volunteers knew how to care for themselves properly, is a fine point for speculation.

When shall this training begin? As the citizen is trained during boyhood by the State for his future civil duties, and since the bearing of arms in defense of the flag is in this country one of the proper duties of the citizen, the logical answer is that this training should be coincident with his civil education.

2.—It is important, however, for us to consider the effects of the military instruction upon the boy as an individual. Will such training be detrimental to the boy, or be, in any way, incompatible with his civil character or duties? We believe not. We believe further that it will be a positive benefit, physically, mentally and morally.

I. PHYSICAL BENEFIT.

A military instruction which brings in a systematic training of the muscles of the body in marchings and exercises in the manual of arms, but which would also include periodical open

air drills and summer encampments, would undoubtedly tend to a physical growth which would be marvelously pronounced. Fresh air and sunshine are nature's cures, or rather preventives, of most of the ills which afflict us; and fresh air and sunshine are two things which are the inevitable concomitants of proper military training.

II. MENTAL IMPROVEMENT.

But how will it improve the boy mentally? By developing certain mental habits, such as attention, concentration and readiness.

By attention, we mean that mental faculty which is discussed in works on psychology, the awakening and sustaining of which is one of the proper functions of the teacher in the civil education of our youth.

The soldier listening to the instruction of his superior, and awaiting his commands, has his attention awakened in the fullest degree; while the necessity for instant obedience during drill evolutions develops the faculty of concentration to a marked extent.

One of the interesting experiments performed in experimental psychology is the measurement of reflex action—that is, the time it takes a sensation to reach the brain and for the proper resultant muscular action to be effected. If we bring our hand in contact with a hot surface, it takes a measurable period of time for the sensation of pain to be carried to the brain and for the resultant nervous action to be transmitted back to the muscles governing the afflicted part withdrawing it from the point of painful contact.

Ingenious pieces of apparatus have been designed for the measurement of reflex action, and, in a great number of experiments performed, it was found that the period varied greatly among different subjects, and forms indisputable evidence of the mental alertness or readiness of the subject.

This difference in mental alertness is shown in a marked degree in observing and comparing the drill movements of the raw recruit to those of the trained soldier. A quickening of the senses and an increase in the rapidity of the mental processes is an inevitable result of drill movements. Now, as our entire scheme of secular education is devoted to this end, we can see that military training is in accord with, and not antagonistic to, the ends of civil training. But there is this

difference: we have, in the case of the military training, the element of intense interest which is more stimulating to the mental faculties.

The average healthy-minded boy has a strong military inclination; it accords with the imaginative period of his development, and is provocative of keener attention, stronger concentration and greater alertness than he would have in those subjects of intellectual training which have no military aspect.

III. MORAL EFFECT.

It is recorded in the autobiography of Benjamin Franklin that he kept a note book with certain pages apportioned to those virtues which he deemed most necessary to a successful manhood. When he violated any of those moral habits he placed a cross on the page and continued the practice until he had no more infractions to record.

It is our opinion that there was not one of those virtues to the attainment of which Franklin devoted such sedulous care, that would not be acquired as the result of military training.

One of the great defects with our present system of education is that it subjects the pupil to a rigid discipline which is almost entirely the result of outward pressure. The average schoolboy obeys his teacher, not because he desires to do so, but because he must. When he leaves school he feels a release of this outward pressure, and becomes a more or less restive individual under that system of subordination which prevails in our complex social organization.

On the other hand, if there is one thing that military training does, it is to teach the dignity of obedience, that it is just as honorable to obey a lawful order as to give one. The good soldier feels a sense of pride in his readiness and willingness to carry a "Message to Garcia." There is not an employer of labor throughout the country, who is responsible for the conduct of any important enterprise, who would not feel his burdens lightened if a little more of this spirit were manifest among his subordinates.

Regarding the virtues of promptness and self-reliance, there is very little necessity for going into a discussion as to their value to the young man in all walks of life. Nor can there be any dispute as to the efficacy of military training to inculcate them.

Though very difficult to define, a very important change comes over the man or boy who dons a uniform. There is not only a straightening of the physical being, but also of the moral being. The boy with unshined shoes, ragged clothes and unwashed face might, with hang-dog look, give utterance to a deliberate lie; but it is hard to believe that your young cadet, with his shining buttons, spotless uniform and clean, bright face, would stoop to do it.

A lack of accuracy on the part of his employees is another of the troubles the employer of labor has to contend with. They deal in generalities and generally speak in approximations. If they approach the fulfillment of a task, no matter how incompletely, they are satisfied. Thoroughness is not one of their virtues.

In all military exercises, exactness and accuracy are absolute essentials, and those who are subjected to these exercises must, of necessity, acquire such habits in a greater or less degree.

In this merely suggestive statement of the arguments in regard to the necessity of military instruction for schoolboys, first, as it would affect the State, and second, as it would affect the individual, we believe we have advanced sufficient reasons to justify the awakening of a strong public sentiment in favor of it.

One of the grave mistakes which has been made in the past by the advocates of this subject, has been that they have endeavored to have military instruction carried on as a part of the regular school work of our boys.

As a matter of fact, the present school curriculum is so filled with fads and follies that the more serious subjects of public instruction are well nigh crowded out of countenance. To add military instruction to the multitude of other subjects would be an imposition upon the patience of parents and pupils.

In the second place, such a method would bring it under the immediate control of local school boards, which are transitory and ephemeral in character, changing with successive political régimes, which would cause an uneven or sporadic enforcement of any by-laws providing for military instruction.

In our opinion such training should be carried on by the National, through the State, government. It should be done

entirely outside of regular school hours. Boards of education should have absolutely no disposition of the matter at all.

The pupils have ample time after school hours, and the State has sufficient facilities, particularly in the large cities, to give the youth of the country a thorough preparatory military training.

The entire two months of the summer vacation, during which the average city boy runs about the streets getting into trouble with the police authorities in expending his natural exuberance of spirits in such games and sports as his limited facilities afford, but which the city ordinances do not permit, could be spent healthfully and serviceably in a military and athletic encampment maintained by the State.

It will probably be many years before this is done. It has taken nearly one hundred years to develop the great public school system of New York City from the small beginning made by the Public School Society in 1805, and it will probably take as long before the military instruction of the nation's youth will be carried on by the national government as efficiently and thoroughly as his civil education is carried on by the various local boards of education.

BATTERIE DE BALISTES ET DE CATAPULTES

Historical Miscellany.

VANCOUVER BARRACKS—PAST AND PRESENT.

By Brig.-General THOMAS M. ANDERSON, U. S. Army.

I.—THE HUDSON BAY BARONS.

I PURPOSE in the following pages to give a history of Vancouver which will be not a mere chronological record, but a narrative illustrative of frontier adventure. This post has been selected, because its history is interesting and typical. The period embraced will enable us to contrast the old army with the new; and, the primitive life of the pioneer with succeeding civilization.

It so happened that many men who attained great distinction, *began their careers* here as subaltern officers. Grant, Sheridan, McClellan, Phil. Kearney, Ord. Augur, Alvord, Gordon Granger, Macfeely, Steele, A. J. Reynolds, J. F. Reynolds, Ingalls, Pickett and many other famous officers served their military apprenticeships here. Besides these men of this generation, those who do us the honor to follow our story, will find such worthies of the olden time as Wool, Harney, Bonneville and old Joe Lane playing their part in the drama.

Now we must give the setting of the scene, to do which we have to go back twenty-five years before our military occupation. Vancouver Barracks is located on the north bank of the Columbia River, a little less than a hundred miles from its mouth, but in a direct line only sixty miles from the Pacific Ocean. It is in the County of Clarke, State of Washington, and measuring across the peninsula that lies between the Willamette and the Columbia, it is only six miles from the City of Portland, Oregon. The post itself is one of the best in the country, the climate is healthful and pleasant, the surroundings beautiful. The tallest of forest trees, an imperial river, and distant views of snow-capped mountains, make the setting most picturesque. The post was named after the great naval explorer who sailed up this river in 1790, just one hundred and fourteen years ago. All who are familiar with the history of the northwest know, of course, that Vancouver and his British crew were not the discoverers of the great river,

but that Captain Gray with his Yankee bark the *Columbia*, discovered and named the stream, thus giving us our claim from the California border to the forty-ninth parallel, by right of discovery. Our claim by right of purchase came later. For when Gray first sailed along the Oregon coast, he found the portentous banners of Spain, of Britain, and of Russia waving defiantly from the tall mizzen peaks of "Men of War," sent to make good the claims of these land-grasping powers to the Western coast of the American continent.

The French and Spanish Bourbons twice transferred and re-transferred their inchoate rights and shadowy claims to the territory west of the Mississippi.

The last bargain was made to secure a dowry for the daughter of the King of Spain—this was in 1800, and three years after France sold her rights and titles to the United States. The next year Lewis and Clark's Exploring Expedition was sent out, and in 1805, Lieut. Wm. Clark in charge of the advance guard passed down the Columbia in Indian canoes, he being probably the first white man who ever went down the river to the sea. After him the county was named in which, as we have stated, the post is located.

But we were not destined to acquire the territory now embraced in the States of Oregon and Washington without a long and doubtful contest. It has been claimed, in fact, by England, France, Russia, Spain and the United States of America. These are the contestants mentioned in histories, but the most important of all are omitted from the list; namely, the Indians. These aboriginal lords of the soil, did not yield possession without wars and battles which will enter into our history.

Then as subsidiary claimants there were divers fur trading companies, one of these, like Aaron's serpent, swallowed up the rest and for many years exercised almost a sovereign sway over a territory a third larger than all of Europe.

It is a matter of common knowledge that in 1670, the Merry Monarch, Charles II of England, granted to Prince Rupert and seventeen other noblemen and gentlemen a charter as "Governor and Company of Adventurers of England trading into Hudson's Bay."

The gossip of history and memoir have it that even the fiery Rupert, the cavalry leader of the cavaliers and cousin of the King, could not obtain this concession until he interested

one of the Court ladies in his behalf, and that the question as to who should establish trading to the great South Sea, was determined by the influence with the Merry Monarch of the artless Nell Gwynne, the artful De Guereville or the blandishments of the brilliant Barbara Villiers.

In France the question as to whether the Oblate or the Jesuit Fathers should control the Canadian missions and baptize the Chilcats, Klickitats, Klamaths and Modocs, was decided by a woman's smile. If the Widow Scarron had supplanted Madame De Montespan a few years earlier the Jesuits would probably have held Vancouver Fort and this history would not have been written.

As matters ran, the French and English fur companies were consolidated in 1821, the Hudson Bay Company buying the rights, privileges and properties of its rival, as the North West Company had bought and absorbed Astor's Company in 1812.

In 1825 the Hudson Bay Company established a trading post six miles above the mouth of the Willamette on the right bank of the river and on the lower plain just below the one on which the military post of Vancouver Barracks now stands.

They declared it the headquarters of the company in the North West and placed it under Dr. John McLaughlin as chief factor; between twenty and thirty subsidiary posts were soon established, scattered over a range of country extending from the California boundary (42°) on the south to the Russian possessions on the north (54°) and from the Rocky Mountains to the Ocean.

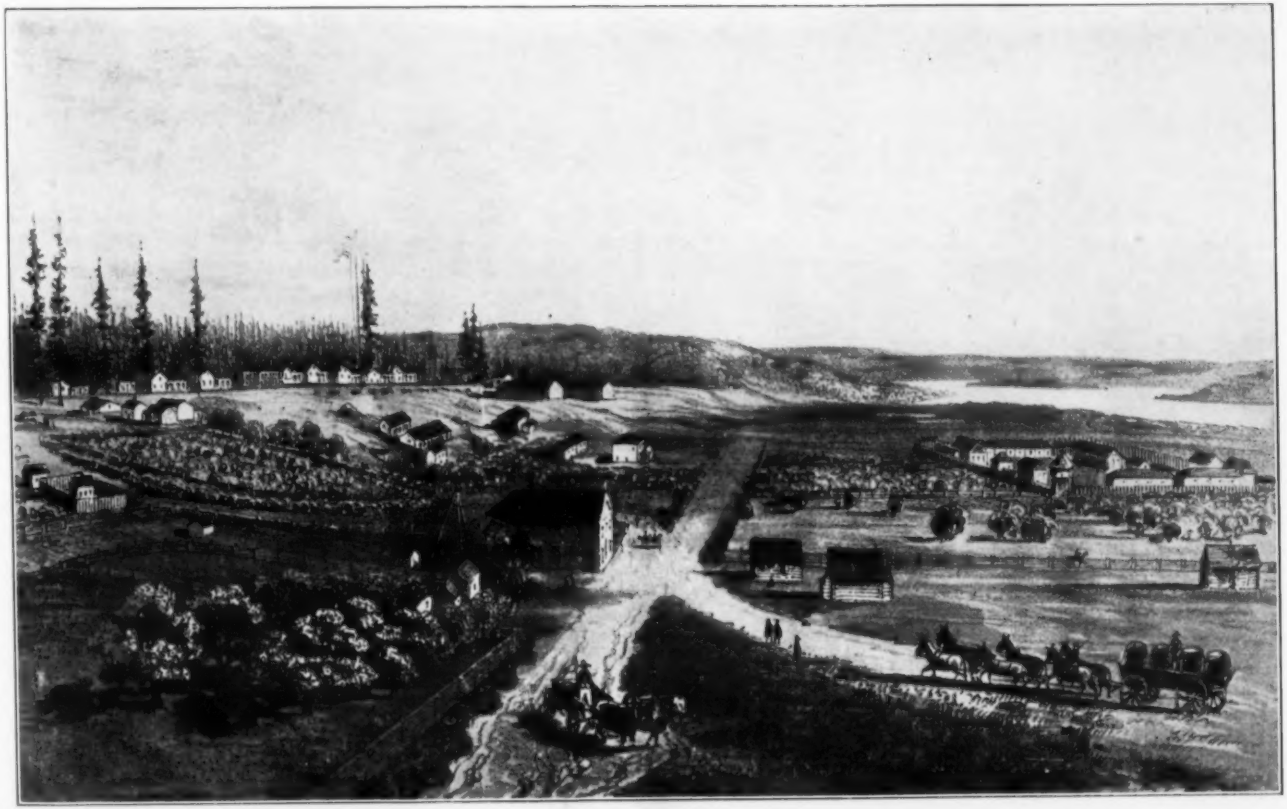
Some explanation as to the policy of the company seems necessary, as it was the real opponent of the American Government in the West. The headquarters of the corporation in America were in Montreal. The warehouses and offices were in Fench Street, London.

The more important provincial posts of the great monopoly were at Winnipeg, York, on the Hudson Bay, and at Vancouver on the Columbia River. Their sub-posts were scattered from the Salt Lake in Utah to the headwaters of the Yukon and the mouth of Mackenzie River within the Arctic Circle. The London papers sent to their more distant stations were three years old when they reached their destination. Fort Vancouver, although nearly 7000 miles from London, was not so isolated, for once a year a large sailing vessel came from London and returned, making its voyage around Cape Horn.

Letters and express matter were annually sent and received from Montreal by land. The route traveled from here, was up the Columbia by boat, making portages around the Cascades, the Dalles and Priest's Rapids, up to Fort Colville, thence up the river to a point where the Canadian Pacific Railway crosses the Columbia, thence north eastward by mountain trails to the Jasper House, thence eastward to Fort Edmonton on the Saskatchewan, thence to the Norway House or Fort Winnipeg and so on to Montreal. A full account of this remarkable journey will be found in Dr. McKay's letter in the Appendix.

The Vancouver Fort was a stockade parallelogram 250 yards long by 100 in width, having block houses on two of the corners armed with culverins. On the inside were the stores, shops, warehouses and dwellings of the officers. The home of the chief factor was quite pretentious. He lived in baronial style and dispensed a liberal hospitality. His visitors in early days have left records of their surprise at his store of fine wines and brandies, the service of silver and more than all, at a surprising innovation called finger bowls. This generous and somewhat ostentatious entertainment was for visitors, not rivals. As soon as it was known that any man thought of settling in the country, the gates were shut on him and he could neither obtain, by begging or buying, bread or salt, powder or ball. This interdict of the company was more cruel than the curse of Rome, for it left the wanderer houseless and helpless in a savage wilderness.

The policy of the Hudson Bay barons was well understood, they wished to encourage hunting and trapping, not saintliness and civilization; they swore by traps and snares and interdicted wagons and plows; they encouraged their coureurs-du-bois to many wild western Hiawathas; they wished their copper colored dependents to be Christianized enough to be tractable, but not civilized enough to be ambitious. Thus wishing the American continent to remain a vast game preserve, they antagonized all immigration, and particularly American immigration. The first pioneers charged the employes of the company with exciting and even arming the Indians against them. After this lapse of time we cannot be sure of arriving at the truth. It is certain that the policy of the company was intensely selfish. Soon after 1830, a Church of England Chaplain named Beaver (a significant name for a Hudson Bay man) was sent out to Fort Vancouver; finding that the chief



VANCOUVER BARRACKS IN 1852.

factor and, in fact, many of the servants were living in concubinage with Indian women, he denounced these easy-going sinners as Nathan did David. Thereupon Dr. McLaughlin smote the bold prophet, but the prophet, not being one of the meek and lowly kind, would have killed the chief factor, had he not been forcibly prevented. Dr. McLaughlin was suspended for a short time, but the overzealous parson was recalled. The cause of this, however, was not his virtue but his indiscretion in proposing to teach the Indians to work. He was given a free passage back to England, but in leaving, left the Hudson Bay Company this pregnant saying to ponder over, to wit: "That they thought more of the skin of a beaver than of the soul of a savage." This Parthian bolt was probably suggested by the motto of the company. "*Pro pelle cutem.*" If Job's "skin for a skin," was given a singular application by the "Gentlemen Adventurers of the Hudson Bay," so our departing parson gave his former employers a Roland for an Oliver. For the impression Mr. Beaver and My Lady, his wife, made on the "young barbarians at play" the reader is referred to Dr. McKay's record in the Appendix.

In 1838, at the request of Dr. McLaughlin, the Bishop of Quebec sent out two Catholic priests, Blanchet and Demers, to act as chaplains for the company and as missionaries among the Indians. For their services they received £100 a year and their support. At the headquarter post they acted as chaplain for the employes of the company and their half-breed progeny. From Vancouver, as a center, they in time sent out missionaries in every direction among the Indians.

American Protestant missionaries had preceded them by at least four years in this field of labor. It is but fair to say, that both labored bravely, faithfully and religiously in the good work they had undertaken. Their object was the same, but their methods were different. The Americans tried to civilize as well as Christianize; they tried to teach their converts to work as well as to pray, so when Dr. Spaulding first came to the Columbia he brought with his Bible, the famous quart of seed wheat which started an industry that founded an empire.

The Catholic missionaries are not to be condemned unheard, if they took a different view of the situation. They honestly believed that innocence resulting from ignorance is better than civilized sinfulness. They were satisfied if their copper-

colored converts were baptized, confessed their sins, were chaste, truthful, honest and abstained from murder and cruelty.

To the American, a race which cannot raise above this negative virtue is like a barren fig tree, accursed and to be burned.

It will readily be seen that the policy of the priests corresponded admirably with the purposes of the great fur company. Under their ministrations the Indians became tractable and peaceable. They hunted and trapped diligently and brought all their peltries to the posts for sale or barter. Once a year, in June, canoes and dug-outs loaded with skins came down all the affluents of the Columbia into the main river. Their points of assemblage were the Dalles and the Cascades—there all the trappers, white, red and mixed, made the portages together, or, if the stage of water permitted, boldly ran the rapids. When the whole fleet was assembled below the Cascades it moved down to Fort Vancouver. Upon its approach the flags were hoisted, culverins fired from the bastions, and the Indians in the canoes with their faces and bodies already fantastically painted, displayed their red blankets and fired guns in the air. Opposite the Salmon house they found the good ship *Pekin* anchored in the stream with all her bunting displayed. When the fleet of canoes turned to shore, the ship fired a salute, and then with beating of tom-toms, barking of dogs, howls and shouts, the children of the forest carried their treasures up to the company's storehouses.

The company's vessel some years carried to London $350,000 worth of furs. Their aggregate profits were enormous, and their influence over the colonial policy of the British Government very great. It was, in fact, so powerful that it came near involving the American and British Governments in general war.

The boundary question between the two countries was not settled in the treaty of 1814 nor in the supplementary treaty of 1818. The boundary was extended on paper along the 49° north latitude to the Rocky Mountains. As to the country beyond, no settlement could be reached except a compromise agreement to hold the disputed country in common. This diplomatic arrangement was renewed three times between 1818 and 1846. For a long time this compromise seemed to work altogether in the British interests.

The Hudson Bay Company by its unscrupulous policy, great wealth and superior organization had driven all rivals from the field. The chief factor at Fort Vancouver was made a magistrate by the Governor General of Canada, and on this slender police authority he exercised almost sovereign sway over a country as large as France.

Let us turn back some pages in history to see how the claims of Russia and Spain had been disposed of. The Russians had an armed and well garrisoned fort on Bodega Bay in California from 1812 to 1836. California was then a part of Mexico, and the Russians only withdrew upon an urgent request of the United States. The Spaniards had a pos on Nootka Sound in 1789; but, as all students of history know, the colonial power of Spain suffered a collapse after the Napoleonic wars.

Three years after the return of the Lewis and Clark expedition, Frazier established, on Frazier's Lake, the first Hudson Bay trading post west of the mountains. Two years later the American Fur Company established a post at Fort Hall on Lewis River. Then came the Astoria venture in 1811. The Hudson Bay Company very soon acquired Fort Hall and sent their trappers down to Salt Lake. Ashley of the Rocky Mountain Company sent trappers out that established Fort Bridger in 1826. Nathaniel J. Wyeth, a citizen of Boston, organized a party of twenty-one adventurers and started across the continent with them in 1832. He succeeded in reaching Fort Vancouver in the fall of that year, with four of his original party. After some explorations, he returned to Boston and raised and returned with a larger party in 1834. With these adventurers he established one trading post on the Willamette about fifty miles above its mouth, one on Wappato, now called Sauvies Island, in the Columbia and a saw mill near St. Helens. These enterprises failed, as his employes and companions all deserted within a year. After exploring southern Oregon, Wyeth returned to Boston in 1835. He was an able, energetic and far-seeing man. He was, in fact, the first American who fully realized the resources of this region.

In 1834 the North American and Rocky Mountain Companies were consolidated, and Fort Laramie, first called Fort William, was established as a secondary base of supplies. Atkinson and Ashley were then representative men of the two old corporations. Their best known representatives on the

frontier were Fitzpatrick, the two Sublettes, Brent, St. Vrain, Jim Bridger, Kit Carson, Chabinier, Dick Robinson and Basil La Jeunnesse.

These bold trappers crossed the mountains and more than held their own against the employes of the Hudson Bay Company.

Soon after 1840 a few American immigrants began to find their way into Oregon and Northern California. About this time Sir George Simpson realized that the only way the new country could be held against American settlers was by sending in a British colony. On his return to Canada he at once dispatched a party of farmers from Winnipeg to the Willamette. It was the arrival of these British Grangers and the exclamation of a young priest: "Thank God! Oregon is saved to our dear young Queen," that sent Dr. Whitman on his famous winter ride of 3000 miles.

Speer Malise, Speer. Run Norman, Run.

The fiery cross was never sent on a mission so big with fate. It is said by the unromantic that he had another motive, in the fact that the Board of Missions in Boston had threatened to discontinue his mission. Rode 3000 miles to repair his fence.

In the meantime Sir George Simpson was in Washington persuading our statesmen that the great North West was a howling worthless wilderness. Sir George, like old Caleb Balderstone, did not hesitate to lie and steal for the honor of the family. How Whitman exposed this lie and led back the immigration that saved Oregon is a romance of history.

It was not the Ashburton treaty that settled the North West boundary and gave us to 49°, but the treaty of 1846. The result of the Mexican War gave us California, and the territory north of its northern boundary was at once organized as a territory and Gen. Joe Lane appointed governor.

As heretofore stated, the Hudson Bay Company for a time established posts and attempted to exercise police jurisdiction north of the river; but soon after American immigrants began to make permanent settlements in the Willamette Valley confining their enterprises to the country north of the Columbia and east of the Cascade Range. When a provisional government was established a few of the servants of the company were given subordinate offices and all the employes made a virtue of necessity and acknowledged its authority. When,

however, the territorial officers of Oregon arrived, all political authority passed into their hands without question.

The Charter of the Hudson Bay Company, or more strictly speaking, its possessory rights under the treaty of 1846 had yet a term of years to run.

So much has been said about the restrictive policy of the company, that a false impression might exist as to the characters of its chief factors in this region.

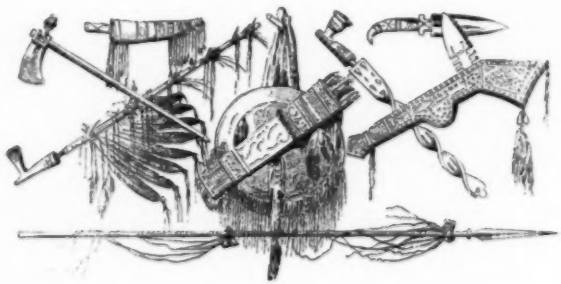
Sir James Douglas was born in the West Indies, but educated in Scotland. He entered the service of the North West company when sixteen years of age. He passed into that of the Hudson Bay upon consolidation of the two corporations. In 1835 he was made chief trader, in 1840 chief factor, and in 1850 governor of British Columbia. A hard-headed old Scotchman he was called, like Douglas the Regent, "Black Douglas." Tenacious of the company's rights and somewhat harsh at times in carrying out its policy, he nevertheless gave material aid to the settlers on Puget Sound during the Indian War of 1856. He was a man of ability.

Peter Skeen Ogden was born in Quebec. His father was living in New York at the time of our War of Independence, but as he took the long ride in that contest, he moved to Canada at its conclusion. Peter Skeen Ogden was given a clerkship in John Jacob Astor's counting house when quite a young man. He joined the North West Company in 1811 and the Hudson Bay Company in 1821. He was a great explorer and established many trading posts in the Rocky Mountains. He explored Montana, Idaho and the Yellowstone country (where, however, old Jim Bridger had preceded him). He established Fort Hall, Idaho, and pressed as far south as Utah. The City of Ogden was named after him. In 1835 he was made chief factor of New Caledonia. In 1849 when Dr. McLaughlin resigned, and Douglas went to Victoria, he assumed charge of the affairs of the company at Fort Vancouver. He was a brave, bold man, generous, genial and hospitable. He died at Oregon City in 1854. He was succeeded at Vancouver by Dugald McTavish, who in turn gave place to Mr. Jas. Graham.

The best known and most popular of all the servants of the Hudson Bay Company, was Dr. John McLaughlin. He was born in Canada in 1784, of Scotch descent, and was by profession a doctor, but early in the century, he gave up the practice of medicine to enter the service of the Hudson Bay

Company. It took him twenty-four years to rise through all the grades to the chief factorship of the Western division. His able and energetic administration was a source of great profit to the company, yet he used his power and the resources at his disposal most generously. Beyond a doubt, he saved many immigrants from absolute starvation. He rendered a strict account of all stores he advanced to needy wayfarers, the result being that vouchers amounting to $36,000 were stopped against him by the Board of Managers in London. In 1844 Douglas and Ogden were associated with him as a Board of Managers for the North West. McLaughlin resented this curtailment of his authority and tendered his resignation. It was not accepted until 1849. Then he moved to Oregon and became an American citizen. He said of himself, that he gave up a salary of $12,000 a year (a large income at that time), rather than carry out the policy of a strong, but selfish corporation. He preferred, as a private citizen, to aid in founding a new state.

Dr. McLaughlin was a whole-souled, noble and generous man. When living he was beloved by all the early settlers of Oregon and Washington, and his memory will long be cherished by their descendants.



THE HIGH COMMAND OF ARMIES.

By General Zurlinden.

(Revue des deux Mondes.)

Translated by Capt. E. P. Lawton, 19th Infantry

IN the next war armies will be taken by rail, in a few hours' time, so as to face each other at four or five days' march apart. The grave period, almost always decisive, of great battles, will develop within the two or three weeks following the declaration of war.

It is important that a people should be ready to act with all its energy in this period, initial, and capital, of the war. The elements which will play the greatest part then, are: the rapidity and regularity of the mobilization and concentration of the armies; the number and worth of the troops under the flag at the moment of the declaration of war; and above all, the energy and coolness of the high command and of the government in the midst of events which will be precipitate, succeeding each other almost without interval.

All negligence in the organization and preparation of the high command, as well as in foreseeing the proper part to be played by the government, may have disastrous consequences to the country. It is important to study thoroughly this question, putting ourselves above particular interests, and preoccupying ourselves solely with the country's greatness.

Undoubtedly the form of our government creates quite special difficulties. But it must not be forgotten that these difficulties have once been overcome; that under our first republic the government knew not only how to excite the enthusiasm and patriotism of the country and of the army, but, still more, how to impress on our generals a virile impetus and a never-to-be-forgotten energy, and to come out victorious from a struggle against all Europe.

But at that epoch our adversaries operated slowly. War had not yet taken on that thunderbolt character that Napoleon gave to it

afterwards. The masses put in movement were far from equalling those of our present armies; they were composed of divisions commanded directly by the commander-in-chief, one did not see army corps, much less armies operating under the same chief. There is no lesson to be learned from that period on the conduct of several armies operating under a single commander.

It is the same with the history of Napoleon; for, during almost all of his career, Napoleon commanded directly his army corps. It was only in 1812 that he divided his troops into three great masses: on the right, an army of 140,000 men under the King of Westphalia, whose mission was to attract the Russians toward Varsovia; in the centre, 80,000 men commanded by Prince Eugene, to support eventually the first army; on the left, under immediate control of the Emperor, the great mass of 300,000 men, maneuvering to take the Russian Army in the rear, if the King of Westphalia succeeded in drawing it off in his direction.

Unfortunately, the lieutenants of Napoleon had been up to this time accustomed to receive orders with every detail of execution set forth. In the preceding campaigns Napoleon "alone knew what he wished to do." He had neither pupils nor confidants. When in 1812 his improvised commanders of armies found themselves confronted with instructions which comprised only indications and general directions, they hesitated; they were wanting in initiative and their staffs also. In speaking of that of the King of Westphalia, Napoleon himself wrote: "The staff was organized so that nothing was foreseen."

We cannot then draw any lesson from this hasty organization; except that it would be a fatal mistake, in our future wars, to try to improvise the high command of armies and their staffs.

We must seek examples elsewhere. The high command of the German Armies in 1870 and the great German staff directed by Marshal Von Moltke will furnish them for us.

I.—GERMAN ORGANIZATION.—MARSHAL MOLTKE.

Marshal Moltke had, over the preparation and over the execution of the operations of the war of 1870, a preponderating influence. To appreciate him at his true value it is just as well to cast a glance over the origin of the Marshal, his military career, and his standing with respect to his sovereign.

Marshal Moltke was born on the 26th of October, 1800, in the grand-duchy of Mecklenburg-Schwerin, of an old German family. The younger branch of that family established itself in Denmark; the young Moltke was attracted there and served at first in the Danish army. But soon, at the age of twenty-two years, he enters, as a lieutenant of infantry, the Prussian Army. From twenty-three to twenty-six years of age he follows the course of the War Academy. Then he is named successively, professor, employee of the topographic bureau, member of the great staff. As captain at thirty-five years he starts for Turkey and remains there on detail for four years taking part in the campaign of the Syrians against the Egyptians. Returned to Prussia, he is attached to the staff of the 4th Corps at Madgeburg; then, member of the grand staff; aide-de-camp to Prince Henry of Prussia at Rome; chief of division in the grand staff, chief of staff of the 4th Corps. In 1855, he is made aide-de-camp of Prince Frederick, since, the Emperor Frederick III. This is the starting point of his military fortune. He is fifty-five years of age.

Up to then, from the age of twenty-three, his career was wholly in the staff. At this time his great qualities must have become evident, and must have made a great impression upon Prince Frederick; and, above all, upon his father, the Prince Royal of Prussia, the future king and emperor, William I; for when the latter received from his brother, King Frederick William IV, the mission to direct the affairs of the Prussian monarchy, the 23d of October, 1837, he named, six days afterward, General Moltke Chief of the Grand Staff, although he had had but one year in the grade of major-general.

The great staff plays in the organization of the Prussian Army a most important *rôle*. It was created in 1820 by Scharnhorst. Up to General Moltke it had had in twenty-six years only three chiefs: Muffling, Kranseneck, and Reyher. The chief of the grand staff is in reality the chief of staff of the sovereign, who is at the same time the head of the government and the supreme chief of the army, the generalissimo; he is charged with superintending the employment of the forces of the nation, of which the minister of war is only the adiministrator.

It is to the chief of the grand staff that it belongs, to propose to the sovereign plans in preparation for war and plans for existing war; to direct the instruction of officers serving with the staff, in order that there may be unity of doctrine in the army; to propose improvements necessitated by events or by inventions that may have influence on war; to watch foreign armies so as to know day by day their progress, their tendencies, their plans. For this he disposes at all times of the grand staff, composed of the officers who in war will form the staff of the generalissimo and the staffs of the armies; so that he can instruct, prepare at leisure, know thoroughly, the officers who will be under his direct orders in war to assure the supreme direction of the armies, as well as those who will be employed in directing each one of these armies.

During war the chief of the grand staff accompanies the sovereign and aids him in directing the operations harmoniously.

Starting from his nomination for this high function, General Moltke does not cease, from year to year, to perfect the staff and the preparation for war of the Prussian Army; and, at the same time, to study projects for operation against neighboring states, against France especially, with which he foresees and hopes that the Germans will have to try conclusions sooner or later. At first, his projects against France are rather defensive; however, in his memoir, dated Berlin, November, 1861, on the strategic importance of the German fortresses, he insists on the advantages of a concentration on the Maine, as much from the offensive point of view as from the defensive. "The offensive, starting from the Maine," says he, "is directed against the part of the French frontier the most feebly fortified. If we can conquer Alsace and Lorraine, provinces formerly German, it is well to realize that we will keep them. . . . ." And this memoir dates from 1861. It terminates, moreover, with a word of prudential advice: "One cannot deny the extraordinary solidity of our theatre of operations on the Rhine. It could only be compromised if we took up a premature offensive on the left bank with insufficient forces. . . . ."

Later, the conceptions of Marshal Moltke become more and more "offensive." In 1870 they are exclusively so.

From the point of view of mobilization, circumstances give to him excellent occasions for verification and improvement: in 1859 during

the war with Italy, it is the complete preparation of a mobilization against us which is to be executed, but the inopportune end of the campaign adjourns it. This experience gives, none the less, indications very useful to the grand staff. In 1863, in the war against Denmark, things are already better. In 1866, against Austria, and, alas! in 1870, against France, better still.

At the same time that the Prince Regent of Prussia names Moltke Chief of the Grand Staff he gives to Major-General Roon of the Grand Staff the functions of Minister of War. Later, he puts Bismarck in charge of Foreign Affairs.

The choice of these three men, to whom he does not cease to accord his confidence, and who aid him to make Prussia great, and to found the German Empire, would suffice to make of the King, of the Emperor William I, one of the greatest sovereigns of history. From the point of view of the Army we must also join to his other attributes his constant solicitude for the improvement of his troops, and the sentiments of honor and duty of which he was the loyal personification in the eyes of his officers and of his soldiers, and which he knew how to inculcate in them to so high a degree.

The Prussian Army worshipped its old and glorious sovereign; this was shown to him under all circumstances, especially at the grand maneuvers, which he directed himself even in the last years of his life.

One of the last maneuvers at which he assisted took place in 1884 on the plains of the Rhine between Dusseldorf and Cologne. A French delegation was present at these maneuvers; it had at its head General Hanrion, who commanded at that time the division of Nancy.

The old emperor was eighty-seven years old; he still rode on horseback. At the great parade of the 8th Corps, in the vicinity of Cologne, he was seen to leave his place during the passing in review of the troops, and, moving at a slow gallop, place himself in front of the Huzzars of the King, of which he was the Honorary Colonel, and pass, at the head of that regiment, before the Empress, in the midst of the enthusiastic hurrahs of the crowd. According to a critic of his last maneuvers, he was on horseback, followed by a numerous staff, which resembled a sea of pointed helmets, when, approaching the foreign delegations which had assembled to take leave of him, he said to them in French, smiling with good nature and slyness: "I hope that you gentlemen have seen well, and that you will be able to report that all is in shape in my army." The foreign delegation could only bow. The German officers who surrounded him appeared delighted with the indirect compliment which their soveriegn thus paid them.

The present Emperor, then Prince William, was there, in his uniform of Major of Huzzars, a brilliant cavalier on a very handsome gray horse, very gracious to the French delegation when he was presented to it, shaking their hands with energy and saying: "We have a great respect for your army."

Marshal Moltke was present at these maneuvers as a simple spectator. He was eighty-four years old. He was large, thin, angular, his face unbearded, the jaw powerful. What struck us especially was his modesty, the attitude of willing effacement of that great man who played such an important *rôle* in the history of his country, and, unfortunately, in ours. His entrance into Dusseldorf was thrilling. The officers of the foreign delegation had just finished

their repast at the Hotel Breidenpacher, when they heard on the street which fronts the hotel, frenzied acclamations which were drawing nearer. The officers ran to the balcony. In the street, dark with people, and in the midst of the hurrahs, a carriage was seen advancing, in which was an officer of cavalry in full dress uniform; and, on the box, by the side of the driver, an old general, wearing the Prussian helmet, with wide brim. It was the Marshal Moltke.

During the maneuvers he rode a plain troop horse; he had no suite and generally kept himself apart. In the receptions of the Court he was in the habit of withdrawing into an embrasure, while the circle was being formed to salute the Emperor.

The evidence of this great modesty permits us, perhaps, to divine what must have been the nature of the service relations of Marshal Moltke to his sovereign. It is probable that the Emperor William learned early to appreciate not only the high value of his chief of staff, but his tact and discretion. Certain of seeing him return to his rank, efface himself at the proper time, and respect always the prestige of the crown, he felt that he could allow him boundless initiative. A confidence, absolute and reciprocal, must have been soon established between William I and his chief of staff, who, moreover, owed to his sovereign, more than to all else, his military fortune. This reciprocal confidence was never relaxed.

How did they work together? It is probable that, if, under all circumstances, Moltke knew how to present, in time, to the Emperor, solutions well prepared, well studied; on his part, the Emperor, who knew men so well, must also have known how to appreciate events at their just value; and that the clearness and surety of his decisions must have played a great *rôle* in the march of events.

The military correspondence of Marshal Moltke permits us now to show, at least in their great lines of conduct, not the complete *rôle*, but the methods of action of the great Prussian staff during the campaign of 1870-1871. We will make use also of the information, published in Germany, on the intervention of the great staff during this war.

But previously, it may not be useless to recall, to react against discouragement, that, if the operations of the Germans have succeeded with a magisterial accuracy, it is due in great part to the fact that they encountered no serious opposition on the part of the enemy.

At the beginning, while the German army is facing our regular troops, as yet so valiant, our government is completely wanting in decision and energy. Our high command hesitates and gives way immediately to the pressure of the will of the adversary; when it is forced to accept battle, it is to defend itself passively; to Marshal Bazaine, the art of war seems to have been summed up in the occupation of positions and struggling to preserve them.

It is almost always in position, replying with energy and with firm stand, that our troops await the shock of the enemy. They had, so to speak, interdicted the possession of initiative.

During three years before the war they had not ceased to have repeated to the troops that they must renounce their tendency to go forward, which tendency, however, had been worth to them glorious successes not only in Africa, but in the Crimea and in Italy; that, with the new arms, their habit of attacking without orders, as soon as they deployed, presented the greatest dangers, and that they

were to await the orders of the high command to take the offensive. They waited in 1870, courageous, astonished at not marching on the enemy; and never did the order to attack come.

Later, after Sedan, when France rises and puts her whole heart into the struggle, it is too late. Our government can dispose no longer except of troops insufficiently prepared. The Germans, well disciplined, well seasoned, wonderfully directed, have, over our improvised formations, a crushing superiority, which simplifies their operations and which imprints on their combinations an almost absolute certainty.

The *rôle* of their armies is then very interesting to study the point of view of marches, maneuvers of grand masses, and, above all, from the point of view of the staff. But it is less so from the point of view of the art of war, of the struggle of two wills, disposing of almost the same means, seeking daily to worry each other, to thwart each other, to mutually destroy each other, until one of them is crushed. In the beginning, will power existed only on one side. At the end, the determination of our government, always ardent, even too ardent, possibly, has no longer at its disposition but insufficient means. It is no longer but a war of regular troops, already overexcited by great victories, against militia.

And, nevertheless, in these improvised armies, there can be cited everywhere acts of admirable devotion. Is there anything more heroic than they infantry charge of which the little church of Loigny recalls so eloquently, the grievous, but glorious memory? than those pontifical zouaves, those "mobiles" of Cotes-du-Nord, those sharpshooters of Tours and Blidah. led, in the evening of the 2d of December, by the commander of the 17th Corps, General de Sonis? It was a question of carrying Loigny and relieving two battalions of the 37th Foot which were struggling, bravely, and in desperation, in the cemetery of the village. In spite of the artillery, which sweeps the great plain, in spite of the fusillade of small arms, our valiant troops reach Loigny; but they are crushed there by the superior force. In a few minutes General de Sonis has his thigh fractured; his chief of staff is struck by an exploding shell; General de Charette is grievously wounded and left for dead in the midst of the corpses of his zouaves, who lose more than two-thirds of their effective strength.

It is not useless to make this statement of fact, to recall these memories. They can only contribute to make us face the future with confidence; to satisfy us that the day when we shall have at our head army chiefs, willing, and knowing how, to take, from the beginning of war, an offensive, bold and vigorous, the French Army will exist again, with its admirable qualities of spirit, ardor, and initiative, and will know how to efface the sad and unjust memories of 1870.

II.

The mobilization and concentration of the German Army for the war of 1870 were effected from Berlin itself. The King of Prussia and General Moltke did not start out until the 31st of July to transport the general headquarters of the armies to Mayence, where it was established on the 2d of August.

On the 3d and 4th of August various orders are given by General Moltke to the Commanders-in-Chief of the 1st, 2d and 3d Armies for the commencement of operations. At the same time General Moltke wrote to Lieutenant-General de Blumenthal, Chief of Staff

of the 3d Army, commanded by the Prince-Royal, Frederick, a personal letter, dated Mayence, the 4th of August, 1870, as follows:

"I have the honor to inform Your Excellency, in reply to the dispatch which you addressed to me yesterday evening, that the ideas developed there accord perfectly with the views and intentions that we have here.

"Complete liberty of action is ordered to the 3d Army for the accomplishment of the mission confided to it. A direct coöperation with the 2nd Army is not possible, by reason of the configuration of the Hartz Mountains. Harmony, in the operations, can only be obtained from here, by keeping an account of the measures taken by the enemy.

"It would be very desirable for your Royal Highness to approach as soon as possible the corps of MacMahon and eventually that of Failly: it is at Haguenau, at the latest, that it will be seen whether those French troops have been, they also, directed on the line St. Avold-Sarreguemines. In case they have, to push further south would be like giving a sword thrust in the water, and a change of direction toward the upper Sarre would seem indicative of. . . . ."

The letter continues with indications as to the part to be played by the two other armies and even as to the coöperation of the three armies:

"The entrance on a simultaneous line of the three armies in a decisive battle is the desired end; and it is with this idea in view that it will be sought to regulate the movements from here."

Behold, then, outside of the orders given by the King to Prince Frederick, commanding the 3d Army, the chief of staff of the latter even more completely and directly informed by the chief of the grand staff, not only as to the desires of the generalissimo in what concerns the 3d Army, but as to the general end of the operations of the three armies. He is thus completely guided for acting, with due consideration for events such as may transpire, in harmony with these desires and this general end. In a word, from our military parlance, he is "oriented." We will see this proceeding renewed often during the campaign. In a letter dated Mayence the 5th of August, General Moltke writes to General Steinmetz commanding the 1st Army: "I am perfectly in accord with Your Excellency on the subject of the importance that it is to the army commanders to know and possess exactly the motives serving as a base for the orders of His Majesty."

The evening of the same day, General de Steinmetz complains to the King of the insufficiency of the instructions of General Moltke; he ends his telegram by saying: "I am without basis for timely action."

From the beginning of operations there was some bitterness in the relations of Steinmetz and Moltke. General Steinmetz is seventy-four years old; he had covered himself with glory in 1866 and had been surnamed "the lion of Nachod."

He shows, in his functions of Commander-in-Chief, toward General Moltke, a sensitiveness of which we will see other examples, and which is never found on the part of the princes commanding the other armies.

This comes, doubtless, from the irritable character of the old Steinmetz; and, possibly also, from the fact that the other army commanders are, by their very status of princes, so much above these petty rivalries, that neither direct intervention in the matter

of their troops by the grand staff and its chief, nor the side correspondence of chief of staff to chief of staff, can give them umbrage.

The grand staff does not intervene either in the combat of the 2d of August at Wissembourg, or in the battles fought on the 6th of August at Reichshoffen against MacMahon and at Spickeren against Frossard.

On the 7th of August there is another personal letter from General Moltke to Blumenthal, chief of staff of the 3d Army, to congratulate him on the subject of the victory of the 6th of August and to inform him in the matter of the continuation of operations. Information is also supplied, by order of His Majesty, to the commanders of the 1st and 2d Armies.

On the 8th of August there is a telegram to the three army commanders, the purport of which is to increase the authority and facilitate the functions of General Moltke.

"His Majesty has directed that all requests of a military nature, accounts rendered, etc., which would have been sent to him by army commanders, should be forwarded to my address."

The complaints of General Steinmetz continue. A rough draft of a letter from His Majesty to this general, written by Moltke probably, the 8th of August, ends thus: "I consider as without foundation the complaints made by you against the 2d Army. . . . . This latter has been conducted in a manner absolutely in conformity with my intentions."

The 8th, 9th and 10th of August there are orders from the King to follow the French Army, which seems to be retiring toward the Moselle.

The 11th of August, at 10 o'clock in the morning, there is a personal letter from General Moltke to General Stiehle, chief of staff of the 2d Army, commanded by Prince Frederick Charles: "Thank you for all your information, by so much the more that we receive none from the 1st Army (General de Steinmetz). I am not even prepared to tell you whither his army corps are being directed to-day. Desired steps have been taken to remedy this state of things.

"The position of (the French) behind the Nied is, possibly, in spite of everything, only a position of observation, the principal forces remaining behind the Moselle. I submit, however, for your consideration whether there is not reason for stopping the 3d Corps, to allow the others to close in."

The same day instructions, dated general headquarters, St. Avold, 7 P. M., to the commanders-in-chief of the 1st and 2d Armies, say: "It is not improbable that an important fraction of the enemy's force is in front of Metz on the left bank of the French Nied. It is necessary, therefore, to closely concentrate the 1st and 2d Armies."

Then follow the orders of the King for this concentration, designed to permit the attacking of the French Army in its position at Pont-à-Chaussy on the Nied. The German high command believes itself on the eve of a great battle.

The same day, the 11th of August, toward 10 o'clock in the morning, at his headquarters at Puttelange, Prince Frederick-Charles, commanding the 2d Army, had written to General Moltke a very interesting letter, since it exposed the ideas of the Prince on the employment of the German forces against the French. Although the engagement did not take place, it is interesting to describe his plan of battle which is very complete, and which emanates from the

army chief who had already played so great a part in the war of 1866 against Austria:

"Excellency, I have already informed you from Sarreguemines that the enemy seems to have concentrated in great masses behind the French Nied on this side of Metz. I hasten, on my arrival here, to make known to you my opinion. It seems apparent that this concentration of the masses of the enemy will lead to a battle. You will appreciate whether there is not reason for putting the 1st Army in movement under such conditions that, in conjunction with my 3d Corps, it may prolong, at need, a part of the front, and may, above all, be able to execute with a strong force, on the left flank of the enemy, a wide turning movement. I will place in front of the adversary the number of troops which may appear necessary to hold him in check, as my army did at Sadowa, and prevent him from penetrating our centre. I will direct the principal effort against the right flank of the enemy; I will take up the offensive there in force,, having for the enveloping troops at least one corps in reserve. . . . . We will be able to make the deployment on the enemys' front in the daytime. the preparatory movements on the flanks must be made, as far as possible, at night, and by roads reconnoitered in advance. No fire should be lit and the combat should commence at daylight, not later than five o'clock. May God aid us!"

Marshal Bazaine having fallen back on Metz, the battle did not take place. The 12th of August at 4.30 P. M., there are sent out from the general headquarters at St. Avold to the three army commanders, the orders for the continuation of operations.

"So far as the news received permit us to judge, the principal forces of the enemy are retiring behind the Moselle, by way of Metz.

"His Majesty orders as follows:

"The first army will proceed to-morrow, the 13th, toward the French Nied, the main force on the Etangs Pange line, and will cover the railroad station at Courcelles. The cavalry will reconnoiter toward Metz and will cross the Moselle below. The 1st army will thus cover the right flank of the second.

"The latter army will proceed on the line Buchy-Chateau-Salins and will push forward its advance posts to the Saille. It will seek if possible, to secure the crossings at Pont-à-Mousson, Dieulouard, Marbache, etc. The cavalry will reconnnoiter beyond the Moselle.

"The third army will continue the march forward toward Nancy-Luneville. Orders will shortly be issued for its later employment."

The 13th of August, at 9 P. M., at the general headquarters at Herny, the following orders are executed for the 1st and 2d armies:

"According to news just received, important fractions of the enemy were still, this morning, on this side of Metz, et Servigny and Borny.

"His Majesty directs, in consequence, that the 1st army remain to-morrow, the 14th of August, in its position on the French Nied, pushing forward advance guards to observe whether the enemy is retiring or preparing to take up the offensive.

"In prevision for this last eventuality, the 2d army, to-morrow, will push, first, the 3d corps on to the heights of Pagny only, and, then, the 9th corps toward Buchy, in the direction of the Moselle. They will thus be at a distance of one wile apart, and able, by starting in time, to coöperate in a serious action before Metz. On the other hand, the 1st army is so located as to prevent by a flank attack any movement of the enemy toward the south . . . ."

The 1st and 2d armies were thus, by these two successive orders, completely guided for the day of the 14th of August. It is on this day that takes place the battle of Borny, the first sanguinary encounter between the German armies and that of Marshal Bazaine.

The military correspondence of Marshal Moltke gives no information about this battle; but a German publication, "Critical Days," by the Prussian Colonel "Cardinal Von Wiedrn," reviewed in 1901 by our Official Military Review of foreign armies, furnishes complete and very interesting information of the intervention of the grand staff on that day.

The grand staff had sent, early on the 14th of August, one of its officers, Lt.-Col. von Brandenstein, to visit the outposts of the 1st army. Brandenstein decides that the instructions from general headquarters have not been fully complied with; that the advance guards are not pushed forward to observe whether the enemy is retiring or is preparing for attack; that the corps of the 1st army are not prepared to intervene should the 1st army be attacked; that General de Steinmetz is at Varize, too far from his troops.

Brandenstein informs General de Manteuffel, Commander of the 1st Army Corps, of the situation; the latter thinks he cannot attack, it would be disobeying the orders of his chief; but he repairs to his outposts and puts his whole corps under arms.

Brandenstein hurries to Varize; he finds General de Steinmetz intractable. He proceeds toward the 7th Corps and hears cannon fire It is General von der Goltz, commanding the advance guard of the 7th Corps, who, seeing the French troops everywhere withdrawing toward the Moselle, had just taken the initiative and attacked them. Brandenstein meets him and learns of his resolution to attack; he hurries immediately to give the alarm to the two divisions of the 7th Corps which are not slow in joining in. General Lastrow, commanding the 7th Corps, assumes charge on this side.

At the same time, Brandenstein sends an officer to warn the commander of the 1st Corps, Manteuffel, who replies immediately: "I move forward with my whole corps." The 9th Corps of the Army of Prince Frederick-Charles gives proof also of great initiative.

On the contrary, the 8th Corps, which forms the reserve of the 1st Army, does not budge; its chief resists the demands of the other two army corps. Later, at nine o'clock in the evening, he even stops one of his brigades, put in movement on the direct orders of General de Steinmetz, regarding it as uselessly fatigueing his troops.

Steinmetz had in fact, at seven o'clock in the evening, decided to mount his horse, and, at the same time, he caused the order to open the combat to be rapidly transmitted. He meets General de Manteuffel at 8.45 at Noisseville and reproaches him bitterly for his disobedience. He holds him responsible for the enormous losses suffered by his troops, and, finally, gives him a formal order to withdraw to his position of the morning.

The officer whom he sent in the direction of the 7th Corps, to have the combat reopened and retake the positions of the morning, meets General von Lastrow at nine o'clock in the evening eating hastily at the chateau of Pange with some other officers, including Lieut.-Col. Brandenstein. After having consulted with the latter General von Lastrow makes reply to Steinmetz that he will put off the execution of his order until the following morning. Behold a general-in-chief well obeyed!

The attack had been carried on vigorously along the whole line

by the Germans; but their efforts were not long in being arrested by the energetic resistance of the French, who unfortunately had received from Marshal Bazaine, at the opening of the combat, the formal order not to advance a foot.

The order was executed; our troops, the greater part of whom were under fire for the first time, were admirably cool; it was evident that they were burning with the desire to go forward. Marshal Bazaine had at his disposition the 3d Corps, the Guard, the 6th Corps, and even the 4th Corps, which, on the initiative of its valiant chief, General de Ladmirault, retraced its steps and prolonged the line of the 3rd Corps. What an admirable occasion for crushing some of the German corps, for punishing them for their audacious attack! But it was decreed that Marshal Bazaine should not know how to profit by any of the fine opportunities of the 14th, 16th, and even of the 18th of August; and that the qualities, very real, of his valiant army should not be utilized.

Events condemned then the prudence of the old Steinmetz; they upheld the representative of the great staff, Lieut.-Col. de Brandenstein. The King also decided in his favor: on the morning of the 15th he was at Pange and, before General de Steinmetz, he loudly congratulated the German generals on their initiative.

Steinmetz took part also in the battle of the 16th and 18th of August; then his army was absorbed in the army for the investment of Metz, confided to Prince Frederick-Charles. He returned to Germany as governor of Posen and Silicia.

The correspondence of Marshal Moltke gives no detail of the battle on the 16th of August, fought on the left bank of the Moselle with the army of Bazaine, toward Rezonville and Vionville.

This battle is due to the initiative, very risky, moreover, but remarkable for boldness and perseverance, of General von Alvensleben, commander of the 3rd Corps, aided by two divisions of cavalry, by the 10th Corps, and some other elements of the 2nd, and by the 1st Army. When Prince Frederick-Charles, commander-in-chief of the 2nd Army, learns of the perilous situation of the 3rd Corps, he mounts his horse, rides twenty-one kilometers in one hour and a half, reaches the field of battle at half-past four, near the wood of Saint-Arnould, and, without hesitating, gives the order to continue the offensive. His intervention prevents the Germans from giving way.

On the 17th of August the 1st and 2nd German Armies are concentrated on the site of the battle of the day before. On the 18th of August takes place the great battle of Saint Privat. The orders given by the King for this day comprise the directions relative to a general forward movement, which is executed by division masses, on the morning of the 18th, but without any fixed end in view; because it is not known where the French are.

Then, at 10.30, from the height to the south of Flavigny, there are sent out the following instructions to the commander of the 2d Army:

"From information received it may be admitted that the enemy wishes to hold the plateau between Point-du-Jour and Montigny-la-Grange.

"Four of the enemy's battalions have pushed forward into the wood of Genibaux. His Majesty decides that there is reason for putting the 12th Corps and the Guard in march in the direction of Batilly, in order, either to reach the enemy near Saint-Marie-Aux-

Chenes, in case he should retire toward Bricy, or of attacking him from Amanvilliers, in case he should remain on the heights. The attack should be made simultaneously by the 1st Army coming from the wood of Vaux and from Gravelotte, by the 9th Corps, against the wood of Genivaux and Verneville, and by the left wing of the 2nd Army coming from the north."

And this is about all. The rest is due to the initiative of Prince Frederick-Charles and of his Army Corps commanders, notably of the Guard and of the 12th Saxon Corps. During this formidable battle Marshal Bazaine did not leave his lodgings on the plateau of Plappeville.

(To be continued.)

PORT ARTHUR.

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(Journal, Royal U. S. Institution.)

THE garrison at Port Arthur numbers about 20,000 men. These are principally quartered in the forts and batteries. As one approaches the fortress, and is still 16 miles distant, Fort Sampson, a sea defence, looms 2,000 feet above on the left. At Sokato is the junction for Dalny; here a line of temporary defences against the land side has been thrown up. The Liaou-tung Gulf is now visible for the next 10 miles. Then the hills close in, and passing between Table Hill and Lu-chung-Kau, each crowned by powerful forts, the train steams along a muddy estuary's bank, past some mean buildings, and draws up at Port Arthur.

The strategical importance of Port Arthur is that it commands, so far as a land fortress can, the Gulfs of Chi-li, Liao-dun, and Korea. It is favorably placed, therefore, to serve as base of operations against either Tientsin by Taku, Chi-fu, Wei-hai, or the Ya-lu river ports. On the other hand, its land communications, placed as it is on a peninsula, are defective. From the Bay of Tsin-Chou, in the Liao-dun Gulf, or Lio-chu-tun inlet in the Korean Gulf, a battleship or cruiser standing out at three miles from the shore could cause great trouble and loss. Landing parties, although preparations have been made for their reception, could also make things unpleasant. Tactically speaking, Port Arthur is very strong and difficult to take. The fortifications which surmount every hill on the land side are semi-closed works; but their gorges are protected by masonry, loop-holed walls, almost as solid and inaccessible as those of Tregantle, Scraesdon or Portsdown Hill. These forts, constructed under the eyes of General Vernander, of the Engineers, a worthy successor to Todleben, are on the kaponier trace; their kaponiers, deeply sunk in the ditch, are also protected by counterscarp and escarp galleries. Their guns, which consist of 5.9-inch, taken from the Chinese, and 7, 10, and 12-inch breech-loaders (Oboukoff pattern), are mounted either en barbette on disappearing carriages (something like our Moncrieff type), or on over-bank fire carriages of the Poutiloff pattern. The total number of guns in the fortress is given by the Russians as 400. I counted ten hill forts, four sea batteries of eighteen to six guns each,

and estimated the number of guns on the *Zolotaia-Gora*, or Golden Hill, which I was not allowed to visit, as fifty or sixty, divided among six to eight batteries.

On arriving at Port Arthur by sea, the four long batteries to the south of the harbor entrance strike the practised eye. No guns are seen, but from the interior of the harbor above the Tiger-Tail torpedo-boat sheds they can and have been counted, noted, and their description forwarded to Tokio. From the sea it is impossible to count or even locate the batteries on Golden Hill. Their profiles are so low and carefully covered with grass or material of the same color as the surrounding ground that they are invisible; but the guns do not fire through embrasures. How they are mounted it is hard to say, as no one dares to use a field-glass at Port Arthur. But their carriages look from a distance like 10 or 12-inch Poutiloff pattern, which are well known to artillerists all over the world. Not only are all the sea batteries more or less invisible, but—and in this they resemble the works at Kertch, and also one of the new batteries at Batoum—they are all placed high above the level of the sea. Thus they command a greater range, can bring plunging fire to bear on a ship's deck, and are themselves almost safe from direct, as opposed to high angle fire. By the latter alone can they, as a rule, be struck. The protection to the gunners and guns in these works is very effective. There is no difficulty from smoke, as in works with closed galleries, nor can the men serving the pieces be struck by splinters of stone, for the works are of earth. The communications between the batteries, which can be seen from the land side, are safe from search by enfilade by their trace; the prolongation of which falls either on the site of other works or inaccessible land positions. They are hidden from direct view and fire by the crest of Golden Hill, on the north side of the harbor entrance, and on the south side they are almost invisible from the sea. The communications between all parts of the outlying defences and the dockyard, the artillery park, the old town, and the new town are excellent macadamized roads, safe from fire.

It is now necessary to speak of the stores, of the abattoirs, wells, ammunition, food, forage, water supply, sanitary arrangements, spare carriages, guns (field and siege), barracks accommodation, stabling for horses, hospitals (permanent and field), cooking, etc. Space fails me to go into all these at length. The exact number of projectiles per gun is not known, but as for two and a half years ammunition has been sent both by land and sea to Port Arthur, it is probably as large as that of Sevastopol, Kertch, or Batoum. Groats, tinned provisions, wines, and spirits have been brought in enormous quantities from Russia, England, Japan, and, above all, America and France, to Port Arthur. Bread, meat, and vegetables are dearer, and scarce in comparison. Vegetables come from Manchuria. Meat used to come daily in Messrs. Butterfield and Swire's boats from Chi-fu, in Shantung, ninety-eight miles off. For the last year or more a Russian tri-weekly service has brought over some eighty beasts in very good condition, besides vegetables, salads, and fruit, from Chi-fu. The supply is not so regular or large as when carried by the English boats, but it has been considerable. The wells are numerous. The soil is limestone; rainfall heavy in spring only; climate in summer and winter almost rainless. The old Chinese wells are foul and dangerous. The new Russian wells are better, and in garrison towns the Russians boil all the water issued to the troops. Cholera was severe at Port Arthur in 1902, carrying off as many as 150 per diem,

principally natives. The abattoirs situate near the artillery park, north-east of the harbor, are large and well arranged. Immense stores of forage have been accumulated, but the daily consumption is very large. Numbers of horses, mules, and donkeys have been brought to the place. There was a large civilian element, both Russian and Chinese, composed of tradese, coolies, and land sharks of both sexes. These useless mouths have all, or nearly all, disappeared.

There can be no doubt that whoever attempts to take Port Arthur will have an excessively difficult task. The garrison probably now stands at about 20,000 men, with, say, 10,000 sailors. And it would be well for our readers to take the testimony of an eye-witness, and believe, that contrary to some of the reports of our press, the quality of these troops is quite first-class. Lately a good many men have been directed from the fortress on the Ya-lu river, and Liaou-Yang.

Port Arthur Harbor is a land-locked inlet of a tidal sea, with a great flux. Thus at low tide, the room is comparatively small. Admiral Alexieff tried by dredging to remedy this unsatisfactory state of things. The total area of the harbor at high tide may be about equal one quarter that of Portsmouth. Its entrance is very narrow, and not more than a quarter of a mile broad at most. On the east side is the steep declivity of Zolotaia-Gora, or Golden Hill, with signal stations and some eight batteries of heavy guns. On the west side a lower limestone rocky ridge, some 150 feet high, hides the whole harbor from the sea. On this are four great batteries, with from eight to eighteen guns of 7, 10 and 11-inch calibre, as described. As one steams in almost north-west by north, a low hill with an estuary to the south-west of it, appears facing the entrance. It is covered with rather mean houses, which will in time give way to official residences. Before proceeding far, and slowing down, one observes on the north-east a low masonry wall at the edge of the water. The sea laps its sides at high tide, leaving a yard or two of mud at low tide. On this are mounted some twenty quick-firing guns with shields. The battery is, perhaps, 150 yards long; the guns are very close to each other. They would be very deadly against boat attack, as they are trained, so to speak, on one spot, and can be fired night or day without change of aim. Opposite this on the port side to the south-west is another quick-firing battery. This battery mounts a dozen guns at least. It is immediately below the hill on Tiger-Tail peninsula. On this spit of land has ben built the torpedo-boat shed, now in full working order. Here, if boats are not actually built, they are hauled up on slips, and all possible repairs can be made. The shed has all the necessary engines, lathes, shops, etc. It is needless to say that this and the whole fortress, except the outlying forts, are lit with the electric light. At least two 10,000 candle-power projectors send their beams seaward at night to sweep the approaches with a flood of light. To the northeast lies the coal depot, perhaps 350 yards from the entrance from the harbor. It is close to the shore, and occupies all the space between the outer end of the twenty-gun quick-firing battery under Golden Hill and the entrance to the basin. A wall cuts it off from the dockyard on the land side; on the side of the sea, ships can come almost alongside. It is in a bad position, as the ground makes a salient, and the heaps of coal are nearly, but not quite, exposed to view of a steamer passing the entrance of the harbor. The Cardiff coal, which is stacked in uncovered heaps, amounts, it is said, to 15,000 tons. A probable danger to the coal is

that an enemy knowing its bearings might destroy or knock it about into the basin and harbor by long-range fire. All the projectiles so aimed which missed the coal yard would fall into the basin, the dockyard, the Saràtoff Restaurant, the Russo-Chinese Bank, and the shipping. Port Arthur, in a word, is a cramped harbor, with a bad entrance, a small dockyard, and only one dry dock.

I left Port Arthur on July 10th. On that day, the first case of cholera appeared at that place. The peninsula of Liâo-tûng on which are situated the fortress and the town of Dalny (*i. e.*, "far off"), is treeless and waterless, save in the time of the spring floods. All the provisions for Port Arthur's sustenance and of the coolies along the line come from Chifù and Manchûria.

At Tâ-Shu, the service of trains to Pekin was now running regularly. What a difference between the state of the country now and that of two short months ago. Then only the early rye grasses, and a hedge here and there gave promise. Now all the crops were in the fulness of growth. The whole of Shông-King is fertile in the extreme. Maize, poppies, corn, hemp, vegetables, melons, potatoes, yield luxurious crops. The great water-ways of Manchûria fertilize it and enable its produce to be borne cheaply. The railway line is held by the Russian *ogranniye straji* (*i. e.*, frontier guards) in great strength. The stations, built of the fine local stone, are now finished. Two days before our arrival at Tié-lin, the post there had been attacked by the Hûn-houzes. I was a little skeptical as to the frequent appearance of these people, but on this occasion there is no doubt they did attack and caused three casualties to the Russians. Tié-lin is on the railway, at the great bend of the Liâou River, which, rising in far off Mongolian hills falls into Liâou Bay at In-kâou, or as we term it, New-Chwang. We had a long halt at Tié-lin. I came across one Pâvel Alexéivitch Tumânoff, a lieutenant in the East Siberian Rifles, who gave me a good description of the attack:

"These poor devils of Hûn-houzes," said he, "whom we call brigands, are simply the former owners of the soil, who, having become dispossessed of everything they had during the campaign of 1900, now rove the country, living on the inhabitants. Whenever they can see a chance they attack the railway line. At first, they did a lot of harm, but now we have 50,000 straji, they don't bother us much. You see the line of hills there to the east, toward Korea, just beyond the coal mines you passed at Fâi-Hé? Well, we heard at Harbin that these people were gathering there, so General Alexéieff (the admiral's cousin, you know), who commands our brigade of rifles, the 5th, sent my company down post haste. We arrived on the evening of the 7th. On the morning of the 8th, just as we were preparing tea, we saw a cloud of dust, and the gleam of lances out there toward the hills. I formed a half company up in line lying down at 6 paces interval, with a section in the station in reserve. My left flank was resting on the Chai-hé stream there, and on my right was a section in the huts by the trees, a little to the rear. On came the Hûn-houzes on their little ponies, waving red pointed banners, their lances glittering, shouting loudly. It really was a pity to shoot them, they came on so gallantly, and rode so well! When about 600 yards off, I let them have a volley, and then ordered independent firing. You know what that means with a smokeless powder. In twenty-minutes the Hûn-houzes were in full flight, about fifty of them were killed, many were drowned trying to swim the Chai-hé, and the plain was covered with riderless ponies. A few managed to

get in on the left flank, and speared three of my poor fellows. One is dead, and another will never see *Mátushka Volga* again; I think the third will recover. It isn't the attacks we mind, they are rather fun. But one never knows when we mayn't be ordered off by train to some infernal hole, and we can't call our lives our own, so constantly are we kept on the trot by Alexéieff."

I need not describe the run up in the excellent carriage which General Kondratovitch had placed at our disposal at Port Arthur. Our train crossed the River Sûngarì by the magnificent new iron bridge at 9 A.M., and steamed into Harbin (Sûngarì station) at 2 P.M. on July 12th. This time the journey took 48 hours.

At Harbin, there were on that day, 320 cases of cholera, and 110 deaths. All work was at a standstill, for the 20,000 coolies engaged in building had fled in a panic. We met parties of them on our way northward, camping out on the steppes. Some had fled as far as Tsitsikàr, where we arrived at 9 A.M. on July 13th. The railway line before this passes over a part of Mongolia. The temperature, which had registered as high as 100° F. in the shade at Chifù, now became sensibly cooler. Waving grasses, studded with masses of beautiful peonies, took the place of flourishing crops. Cattle and sheep, driven by Manchûs, different in face and speech from the chattering Shan-tûng coolies, dotted the vast and verdant plains. On the 14th, the train crossed the Hingân mountain chain. On the 15th we passed Hailar, and arrived at Manjûrie, the frontier station and terminus of the East Chinese Railway, some 1,550 E. miles from Port Arthur, at 5 P.M. Time occupied in transit, 105 hours.

Four and a half days in a train with the thermometer at 85° in the shade, and nothing to eat but sardines and Armour's tinned bacon, with indifferent local bread to supplement them, made us glad of an enforced rest here. The food at the buffet was less good than that supplied in barracks to the British soldier, but we were thankful to eat and pay highly for it. Manjûrie is a rising, literally a rising, town of some 1,500 inhabitants. It boasts a baker, a drygoods store, and an hotel, villainously dirty and very dear. Round the town are encampments of Buriâts with their ponies. There were some 300 coolies at work, but no cholera had appeared among them. Our baggage was here subjected to a not too rigorous inspection. We left Manjûrie on the 16th of July, taking first-class tickets (as by good luck a first-class carriage was attached to the train) direct to Irkutsk. On the 17th, at 3 P.M., we arrived at Karìmskaia, on the river Shilka, where we had to await the arrival of the train from Striétensk for six hours. The mosquitoes were bloodthirsty and numerous. This place is situated in a fertile valley, abounding in grass and cereals, watered by a noble river, on whose surface floated great rafts of timber on their way down to the Amûr. At Karìmskaia we got some hot food in the shape of the excellent *stschi* or vegetable soup, which all Russians, and only Russians, know how to prepare.

On, on, toiled the iron horse, stopping often for his wooden forage and his water; on past Chìta, whose nine regiments of Trans-Baikal Cossacks are watering their steeds in Manchûria; past Mogsdon, where we dined (!) at 1 A.M. on the 18th; past Verkné-Udinsk, also deprived of its warriors; to Missováia, on the east shore of Lake Baikal. Here we arrived at 4.50 P.M., on the 19th of July. Trans-Baikalia, though not to be compared in richness with Manchûria, is a favored country with green steppes covered with horses, flocks, and herds,

tended by pig-tailed Buriâts. Midst vast forests of conifers and deciduous trees rolls the stately Selengà, on its way to feed the waters of Baikal. The journey from Manjùrie station to Missováia occupied 70 hours. There was but little food to be obtained on the way; but enough to live on, which was scarcely the case between Port Arthur and Harbin. Across Baikal we steamed in four hours, and slept on board the steamship "Angarà" (built by Armstrong), until 6 A.M.; when we disembarked, entered the train, and arrived at Irkûtsk at 10.30 A.M. on the 20th July. As we left Port Arthur on the 10th and were detained 24 hours en route, we did the journey in ten days. The whole distance is nearly 2,000 E. miles.

THE SMALL ARMS OF THE RUSSIAN AND JAPANESE ARMIES.

(*The Scientific American.*)

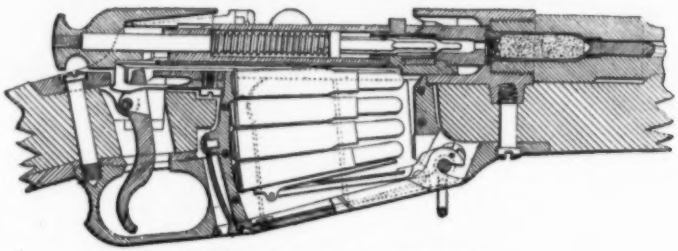
THE contest between Russia and Japan will prove fertile in military instruction. Two intelligent, brave, and well-organized adversaries have now met in the full shock of battle and tactics and new weapons are going to have something to say. In order to appreciate the results of future operations at their just value, it is necessary to be well informed as to the armament of the forces that are arrayed against each other, and to give such information is the object of this article.

RUSSIA.

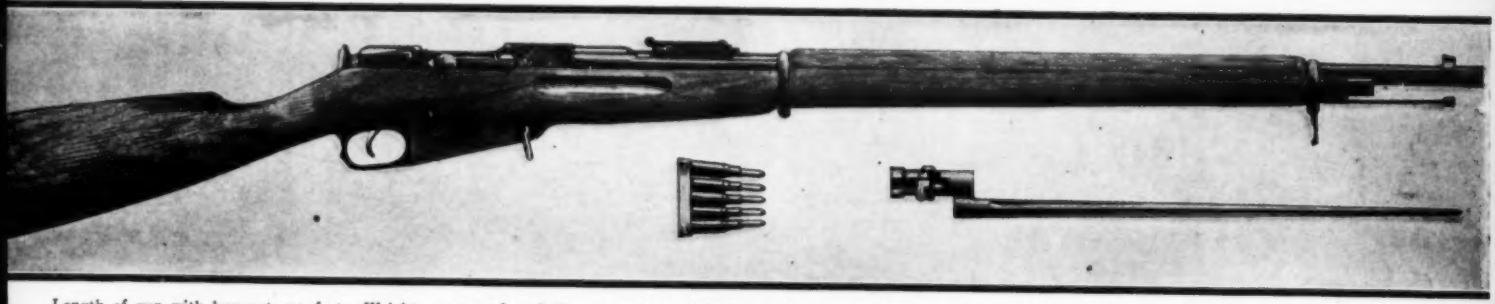
Armament of the Russian Infantry.—The gun is that of Colonel Mossine, of the Russian Artillery, and bears the name of "3-line (.275-inch) gun of the 1891 type." It is a repeating arm with a central magazine for five cartridges.

The barrel is 30 inches in length and has four grooves directed from left to right. The breech box, which is screwed to the rear of the barrel, is provided on the side to the left with a piece that performs the double *rôle* of a cartridge shell ejector and an isolater between the cartridge introduced into the chamber and the cartridges of the magazine. The movable breech is of the bolt type and swings back at the side. The magazine consists of a box formed of two lateral walls and closed by a cover at the lower part. It contains the elevating mechanism, formed of a lever jointed to the cover and a plate jointed to the lever. Two springs tend to raise the latter and the plate respectively. It receives a loader provided with five cartridges. If it be desired to use the gun as a single-shot weapon, the magazine must contain but four cartridges, and care must be taken to press the upper cartridge with the finger in order to permit the movable head to pass over its flange. The stock is of walnut or birch and is provided with the usual accessories. The breech-sight is stepped and provided with a slider. It is graduated upon its right-hand side into hundreds of paces (28 inches), from 400 up to 1,200. The movable plate likewise is graduated into hundreds of paces, from 1,300 to 1,600. Its movable slider, which is held in place by a spring, serves for indicating distances.

The bayonet comprises a quadrangular blade, which becomes progressively narrower toward the point, and the usual socket and



DETAILS OF BREECH MECHANISM.



Length of gun with bayonet, 5.7 feet. Weight, 9.5 pounds. Caliber, 0.27 inch. Initial velocity per second, 2,035 feet. Sighted to 1,600 yards. Weight of cartridge, 390 grains.

THE RUSSIAN ARMY RIFLE.

catch, and remains fixed at the end of the barrel, even during firing. The cartridge comprises the shell, primer, powder-charge, and ball. It has no wad. The shell is of brass and provided with a flange. The primer contains fulminating powder covered with a disk of tin. The charge consists of thirty grains of smokeless powder of a basis of gun-cotton. The ball, which is of hardened lead, with a German-silver jacket, weighs 310 grains and is 4 calibers (1.2 inch) in length. The total weight of the cartridge is 390 grains, that of the loader, when empty, 147 grains, and that of the same when loaded, 4.25 ounces. The elevation of 60 paces corresponds to the line of fixed aim constituted by the sight-plate folded. It gives a sweeping trajectory up to a distance of 600 paces. It is employed when there is no time to spare to give the exact elevation, up to 600 paces, against infantry and 800 against cavalry. In such a case the marksman aims at the upper half of the object.

Firing by volleys is employed at all distances, and individual firing up to 600 and even 1200 paces, if it is concentrated by groups of marksmen upon the same point. Rapid firing is done at the command of "Rapid fire!"

Complementary Data.—Initial velocity, 2,035 feet; maximum pressure per hundredth, 4,400 pounds; pitch of the trajectory at 1,970 feet, 72 feet; length of the gun without bayonet, 4.25 feet; length of the gun with bayonet, 5.7 feet; weight of the gun without bayonet, 8.8 pounds; weight of the gun with bayonet, 9.5 pounds. The number of cartridges carried by the Russian foot soldiers is 120, partly in two cartridge boxes secured to the belt, and partly in the knapsack.

JAPAN.

Armament of the Japanese Infantry.—Japan made war upon China in 1894 and 1895 with the guns of Engineer Mourata of the 1880 and 1887 types, having a caliber respectively of 0.4 and 0.3 of an inch. These guns at present arm only the troops of the second line. The new gun is due especially to Colonel Arisaka. It is of the type of 1897, and is manufactured at the Tokio works. Like the Russian gun, it is a repeating one and of small caliber (0.25 of an inch), and with a central magazine for five cartridges. It belongs to the Mauser type.

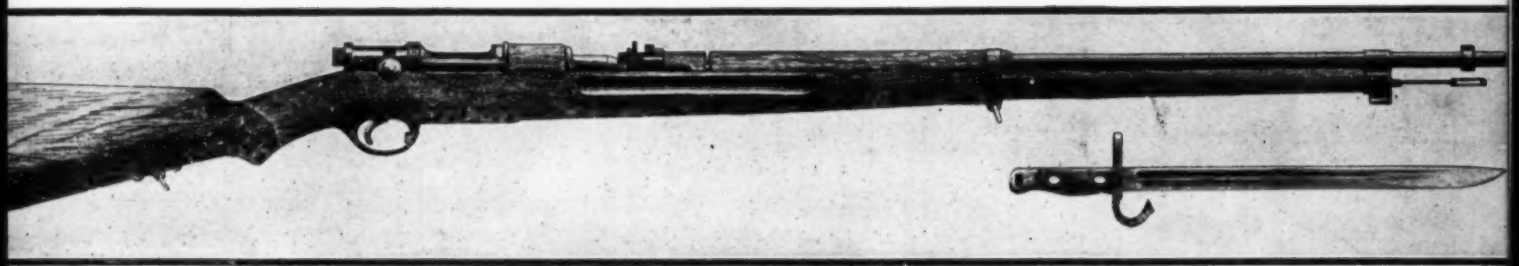
The barrel, which is 31 inches in length, is provided with six grooves turning from left to right. The breech-sight is mounted upon it by means of a long sleeve, the upper part of which, flattened and hollowed, forms its foot; and the prismatic muzzle-sight is secured to a small hoop that surrounds the tapering end of the barrel.

The movable breech is of the bolt system, and turns back upon the side. The magazine, closed at its lower part by a cover, contains an elevating plate actuated by a spring. If the magazine is empty, this plate places itself in front of the movable head after the opening of the breech, and consequently prevents the closing of it. The object of this arrangement is to notify the soldier that the magazine contains no more cartridges. The recharging is done by means of a brass charging plate provided with five cartridges.

The mounting calls for no particular notice. The stock is formed of two pieces.

The breech-sight has no steps. Its plate is graduated from 400 to 2000 yards. Up to 400 yards, the soldier makes use of a notch

DETAILS OF BREECH MECHANISM.



Length of gun with bayonet, 5.4 feet. Weight, 9.6 pounds. Caliber, 0.25 inch. Initial velocity, 2,378 feet. Sighted to 2,000 yards. Weight of cartridge, 336 grains.

THE JAPANESE ARMY RIFLE

formed in the heel of the plate near the joint. Beyond this he employs the notch of the slider and the two notches of the plate. The slider is fixed at the proper division by means of a small click of which the tooth is held in the corresponding notch formed upon the side of the plate, by means of a spiral spring. The saber-bayonet has a 21-inch blade with a simple bevel and hollowed sides.

The cartridge comprises a shell, a primer, a charge, and a ball. The shell is of brass with a very convex cap; the primer contains fulminate covered with tin-foil; the charge consists of 32 grains of Itabaski smokeless powder distributed in scales and strongly plumbagoed; the ball, which is of hardened lead, with a German-silver jacket, weighs 158 grains and is 1.25 inches in length. The total weight of the cartridge is 336 grains; that of the charging plate, empty, 128 grains, and full, about 4 ounces. The charging plates are united in threes in cuneiform cardboard boxes weighing 12 ounces each.

Complementary Data.—Initial velocity, 2378 feet; pitch of the trajectory at 500 yards, 3.87 feet; length of the gun without bayonet, 4.16 feet; length of the gun with bayonet, 5.44 feet; weight of the gun without bayonet, 8.6 pounds; weight of the gun with bayonet, 9.6 pounds; penetration of spruce at 130 feet, 7.5 feet.

The number of cartridges carried by the Japanese foot soldier is 120 (as in Russia), partly in two cartridge boxes and partly in boxes in the knapsack.

MILITARY BANDS AND MILITARY MUSIC.*

By Mr. J. Mackenzie Rogan, Bandmaster, Coldstream Guards.

(*From the Journal R. U. S. Institution, London.*)

I.

MY lecture to-day will deal with the formation, regulation, and tuition of military bands. It is not necessary for the purposes of this paper to discuss the history, still less the origin, of martial music. It is sufficient for my purpose to say that the history is somewhat obscure and the origin virtually lost in antiquity. This much can be claimed, however—that the pages of history, sacred and profane, afford abundant testimony of the conjunction of music with war. Races both savage and civilized, from the earliest recorded period have gone into battle with music to inspirit and urge them forward to the fray. The "tom tom" of the savage has played its part with the exquisite music discoursed by those who accompanied the Greeks into battle, and the martial music of the ancient Egyptians is scarcely less remarkable than the descriptions frequently given of the harp, the sackbut, and the psaltery in the history of the army of Israel.

In the Dark and even in the Middle Ages, martial music in this country had sunk to a low level, but in the corresponding period in Scotland the "Pipers" played their part in arousing the enthusiasm of the soldiers of Robert the Bruce and of Wallace. Even the stern Puritans of the Commonwealth were not by any means oblivious to

* Before the Royal U. S. Institution (London).

the effect of music on their armies, for though they lacked the assistance of a band, they sang psalms and hymns before going into battle, and like others in more recent times evidently conceived that the "God of Battles" was to be propitiated by a devotional rather than a clamorous exercise of music. Some wag has said that it is not certain whether martial music originated in the desire to frighten the foe or the wish to inspirit the friend. But it is safe to say that whatever the origin, there is no doubt of the continuing purpose. There is no army in the world in these days, whether of a civilized or uncivilized power, which would think of going forth to battle without music, and to this fact we may attribute the high level which martial music has now attained in Europe and on our own shores. Not so many years ago, though music was looked on as a necessity, it was, so to speak, left to look after itself in a haphazard sort of way. There was no system of training for army musicians, and little for those who were to direct them. The term "Military Band," it must be understood, is not only applied to bands connected with the army, but is equally applicable to any band constituted of wood, wind and brass instruments. Every performer might be a civilian, and the band might never have played with a regiment in its life, but it still could be called a military band; and above all, a military band should never be spoken of as a brass band. With regard to brass bands, I may explain that they are better known in the north of England than in the south: there are a few in the south of England, but not many. In the north, such bands are important institutions, and contests between them are held occasionally during the summer months. They are often mixed up by name with military bands, and military bands are also confused with brass bands, but the military band is not a brass band.

I now desire to present to you by way of preface a few historical facts respecting the formation, regulation, and tuition of military bands, past and present, and I hope I may be excused for selecting the Coldstream Guards' Band. I do so for the reason that the band is *one* of the oldest in the British Army. Its history can be traced back to about the year 1773; it then consisted of only eight performers and these were *hired by the month*. The instruments used at that time were 2 oboes, 2 clarinets, 2 French horns, and 2 bassoons.

We learn from Parke's Musical Memoirs that the principal duty of the band was to play the "King's" Guard from the parade at the Horse Guards to St. James's Palace, and back again after the Guard had mounted. They were not regularly attested soldiers, and were therefore unavailable for the discharge of any other duty than that for which they were hired. Lord Cathcart, Lieutenant-Colonel commanding the Coldstream Guards, being desirous of taking the band to play at a water excursion to Greenwich, requested the musicians to attend. They, deeming such employment derogatory, peremptorily refused, and there existed no regulation by which they could be compelled to obey. The officers, who entirely supported the band (of eight) were naturally annoyed at this show of independence, and thought it advisable to possess a band more essentially military in character. With this end in view, the Duke of York, the Colonel of the regiment, and who was then in Hanover, was appealed to. He readily acceded to the wishes of the officers, and with the approval of the King sent over a larger band than had formerly been employed, under the leadership of a Mr. Eley, who was given the peculiar title of "Music Major." This, it is believed, was the first serious attempt

made to establish a system of military music in our army. I have heard that the Royal Artillery Band existed at this time, if not a few years before, and that it also consisted of eight performers. I delivered a lecture a short time ago at the Royal Academy of Music on Military Band Music, and this fact was recorded in a letter sent me by a gentleman. I have not seen it on actual record myself, so I can only mention the fact as it was communicated to me. This gentleman stated in his letter that the Royal Artillery Band existed, I think, in 1765. Of course there may have been bands in some of the line regiments, but I have no records to which I can refer. The instruments used at that period in the band were 4 clarinets, 2 bassoons, 2 oboes, 2 French horns, 1 trumpet, and 1 serpent. This was the band that was sent to England from Hanover by the Duke of York. Thus was the first military band of the Coldstream Guards constituted. It was occasionally augmented by subsequent enlistments, and the establishment of the band now is 66 performers. The same establishment exists in the Grenadier Guards and the Scots Guards, but in the Irish Guards the establishment is less, being limited to 44 performers. For a time, Germans continued to be enlisted, but they were gradually superseded by native musicians. At a later date, three Africans were added, and these blacks, who carried two tambourines and a set of Turkish bells, continued to be employed for many years, but were dispensed with about the year 1837. It came to be widely believed, however, that no one but a foreigner knew anything of musical matters. At one time the rage was for Italians, at another for Germans, and the result was, that though a very few excellent musicians were thus imported, the majority were needy adventurers, and the consequences were disastrous for military music in this country.

It is very satisfactory to note that at this period, two of the best bands then in England (Royal Artillery and Coldstream Guards) were controlled by Mr. Mackenzie and Mr. Charles Godfrey, whose names bespeak their nationality. Mr. Mackenzie, I may explain, was the bandmaster of the Royal Artillery about that time, and Mr. Charles Godfrey, the father of the three Godfreys who afterwards served in the Brigade of Guards—Fred Godfrey, Dan Godfrey, and Charles Godfrey—was the bandmaster of the Coldstream Guards, and served for a period of about forty years. My remarks now, I may explain, apply more to the bands of the line regiments than to the bands of the Guards, Royal Artillery or Marines, or any of the Staff Bands.

Until recent years the possession of bands was regarded as a luxury. The bands were dressed and equipped according to the tastes of the officers, and the financial condition of the Regimental Band Fund (which in those days was kept up entirely by the officers) had much to do with the quality of the band. All expenses for pay of professional instructors, musical instruments, and music, were borne by the officers unaided, and only a few men of each regiment were allowed to be trained musicians. Regiments officered by men of means were naturally enabled to secure the services of able professors for the instruction of their musicians, though they were not infrequently far removed from the status of professorship. As I have already remarked, many of them were adventurers and known impostors, having been in some cases taken off the streets by instrument sellers, dressed up, and palmed off on unsuspecting regiments as professors of the first water, when in reality their chief qualification

consisted in their ability to speak broken English. It was chiefly with a view to getting rid of this class that "Kneller Hall" was established. The chief credit for this undertaking is due to H.R.H. the Duke of Cambridge, who established the Royal Military School of Music at Kneller Hall in 1857. This institution has now developed to a degree which entitles it to take a prominent place among the musical colleges of the nation. As in the case of the inception or dawn of military bands, the tentative efforts of Kneller Hall were extremely modest. The school commenced with eight or ten students for bandmasterships, gradually increasing the number to fifteen or twenty, and now the number is from forty to fifty. At first Kneller Hall was supported by regimental subscriptions, with a small grant from Government. Regiments were free to subscribe or not, as they thought fit, but of course only subscribers could send pupils or students; and as many of the old officers (especially those who were wealthy) preferred the ancient type of bandmasters, the support was anything but general. I may explain here that the term "pupil" is applied to boys who are sent to Kneller Hall for training on various instruments. They remain at the institution for twelve or eighteen months, possibly more, and are then sent back to the regiments to which they belong, in order to take their places in the ranks of the bands as instrumentalists. The term "student" is applied to those band-sergeants in regiments who have shown by their ability, musical knowledge and general bearing that they would be likely to turn out good bandmasters. They are sent to Kneller Hall with a view to their becoming bandmasters of the army.

* * * *

After a successful examination at Kneller Hall, a bandmaster, on appointment, is naturally anxious as to the sort of band he is to have committed to his charge—anxious not only as to the "quantity," but the "quality" of those constituting the regimental band. These considerations are greatly affected by chance circumstances of station—some stations, on account of climate, etc., being more detrimental to efficiency than others. I would like to explain what I mean by that. There is no comparison of the difficulties in the way of training a band in England as contrasted with India. In India, during the summer months, the band is invariably partly broken up. I was at several stations in India, and in one in particular, at Cawnpore, out of a band of fifty-six or fifty-eight performers, only about fifteen to twenty were available on the plains during the summer months; the others were sent to the hills for their health's sake; and during those summer months we had to get on as best we could. Mine was not an isolated case. There are many of the same kind; in fact, what I have said applies to many of the plain stations in India. In the hills, of course, the bands are better off; but what I have mentioned will suffice to show that the difficulty of keeping bands going in India is far greater than it is in England. It is also difficult for another reason. In India the regiment has not the same opportunity of getting boys for the band that it has in England. In England the bandmaster, through the kindness of the officers of the regiment he is serving, can go to the schools and select boys. In India the bandmasters cannot do that; their commanding officers have to apply home, and the boys are first enlisted from the schools and then sent out to India. The boys may be fairly good players, but they may know very little about

their instruments. Some of them have been badly taught, which is the worst difficulty of all, because their methods have to be remodeled by the bandmaster when the lads arrive in India to join the band. The same difficulties also apply to Africa, but not to so great an extent as in India. No doubt they would apply also to China, the West Indies, and any foreign station where you have exceptionally hot weather. The difficulties of practicising sometimes in the summer months, when the punkahs are going and the thermometer registers from 100° upwards, are very great.

As a rule, with few exceptions, bands coming from India are in a more or less crippled state, and this from a variety of causes. Consequently the bandmaster finds that his new position is likely to prove anything but a sinecure; but when energetic and determined to make something out of the remnants at his disposal, he usually succeeds in forming a good band, and therefore establishes his reputation as an efficient bandmaster, thus generally gaining the respect of his regiment. My own experience of a bandmaster is, that if he be a good musician, with his work thoroughly at heart, and on going to his regiment makes up his mind to create a good band, and enters at the same time on his work with energy and determination, he invariably receives the support of his officers. It is the man who joins his regiment and is somewhat indifferent to his work, his band, and himself, and possibly does not make himself agreeable in helping with the entertainments in the regiment—which I think it is part of his duty to do—who does not get on. When I was in India I noticed that those bandmasters who helped in getting up the entertainments, and made themselves generally useful in the regiments, always received the support of the officers, invariably made headway, and possessed the best bands. It is those men who go to a regiment and take it for granted that everything will come to them, and leave part of their work to their band-sergeants and others, who do not succeed.

One of the first cares on assuming charge of weakened bands is to endeavor to augment the numbers. Then comes the selection of candidates, which is very important, as a judicious selection may save much unprofitable labor, such as working with a man for three or sometimes nine months, hoping that some morning he may awake and find the cloud lifted, but unfortunately forced at last to give the candidate up as a hopeless specimen possessing no feeling of time, an utter absence of ear, a sort of musical color-blindness, in fact. It follows from this that the successful selection of band candidates is a very important preliminary. In the matter of ear, the test generally applied is obvious and easy, the candidate being made to "whistle" or "sing" the tune he is best acquainted with. Of course there are other methods less primitive than this, perhaps; but in any case the fact remains that a test should be applied. If these preliminaries are satisfactory, then the teaching may commence. The result is often just as I have described it.

To turn now to *teaching by routine:* for most instruments at the present day there are excellent methods or instruction books. Frenchmen seem to have been the most prominent in the production of these useful works—Berr, Klosè, Arban, Barrett, and a host of others. I use the phrase "teaching by routine" as a definition of teaching from these and kindred works in classes or groups. The exercises are progressive, and as nearly as possible *adapted* to the dawning musical intelligence of the learners. This has been found to succeed in many obstinate cases when other methods have failed. For instance, where

the feeling for time or rhythm is deficient, the teaching of syncopation is often very troublesome, and ought, therefore, to be written out in a variety of ways so as to appeal to the eye as well as the ear. I may say here that in my opinion a ruled blackboard with musical lines should be compulsorily placed in every practice room of every band in the army. If such blackboards were there, illustrations could be placed on the blackboard, of the passages that are to be played, which the young hands and boys can look at, and in that way learn a great deal. Very often the bandmaster is talking about a certain thing, and cannot describe it adequately; even by taking the instrument from the performer sometimes, it often cannot be described so well as writing it on the blackboard. That is a thing which is very much neglected in some bands; it is a great pity, because, from my own experience of teaching, which extends over many years, I have found the blackboard a very great help indeed. The time generally devoted to practice varies from three to four hours a day. If a learner is pleased with his instrument, and is anxious to learn, he will find means of extending this to six hours; but four hours is a very good average. I must explain here that the bandsman in the line regiments often has other duties to perform in addition to his musical duties; for instance, he has to go through his course of musketry, military training, and so forth, the same as the soldier in the ranks. In short, he is supposed to be a drilled soldier, so that the whole of his time cannot be devoted to music. It frequently happens that young hands are greatly discouraged and impeded by "old hands" in the band—who are invariably the most useless. They not only set the young ones a bad example, but discourage them in many ways which might appear trivial in themselves, but none the less are a real source of irritation to a bandmaster anxious for the progress of his young people. This class have to be narrowly watched up to the moment of their exit. It is a matter for congratulation, though, that often the direct contrary is the case. There are frequently well-disposed men who are willing, to the best of their ability, to help beginners. As soon as possible the "young hands" should attend the general practice, endeavoring to follow and turn the parts for the players. They learn a great deal by this, besides which they hear all the remarks made by the bandmaster to the particular instrumentalist in whom the learner is interested. Intelligent learners acquire a great deal by this continuous lecturing day after day, which must in time prove beneficial. It goes without saying, that an efficient bandmaster must be capable of conveying a clear idea and explanation of the intentions of the composer he is dealing with.

(To be continued.)

THE JAPANESE FIELD AND MOUNTAIN ARTILLERY.

By Captain B. Vincent, R.A.

(Proceedings Royal Artillery Institution.)

BEFORE commencing to write under the above heading, I must let it be clearly understood that my chances of gaining information about the Japanese Field and Mountain Artillery have been limited to what I could observe during the late autumn maneuvers, and at various field-days in company with the artillery regiments quartered in Tokio.

I have not attended a practice camp, so will reserve any criticisms I may venture to make about the shooting powers of the guns until after the war.

My only reasons for attempting to describe the organization and equipment of the artillery, is, that at the present moment the long expected Japanese-Russian War has at last become a reality, and that the Japanese army is rapidly mobilizing for some immense enterprise.

Under the circumstances, a description however incomplete of the Field and Mountain Artillery may be of interest to officers of the regiment.

In the Japanese Army there are 19 regiments of artillery, each under a colonel. Five of these are mountain and the rest field, with the exception of the regiment in the North Island, which is half mountain and half field.

Each regiment consists of two battalions commanded by majors, and each battalion is again sub-divided into three batteries under the command of captains.

The battery organization is much the same as in the British Army. Three sections of two guns each under lieutenants or second lieutenants, while a sub-division is commanded by a sergeant.

With the exception of the Guard's division at Tokio, the whole of the Japanese active army, together with the various reserves, is organized on a territorial system of twelve divisions corresponding with the same number of military districts; it naturally follows that each divisional district has its own regiment of field or mountain artillery. There are two extra brigades, however, of three regiments each, which are permanently quartered in Tokio. These in war time would, like our corps artillery, be under the direct control of the supreme commanders in the field. In short, the Japanese field and mountain artillery consists of:

Regiments.	Battalions.	Batteries.	Guns.
19	38	114	684

Every battery in the country has lately been re-armed with a 7½ centimeter steel gun, made together with the rest of the equipment at the Osaka Arsenal.

Though both field and mountain guns are of the same caliber and take the same shell, the difference in length of gun, charge and range is considerable.

The tangent sight of the former is graduated up to 6,200 meters or 20°, and that of the latter to 4,300 meters. The time fuze in both cases can be set up to a range of 4800 meters.

The great weakness of the Japanese Army lies in its horse flesh.

The Government has not been able to afford the expense of buying American or Australian horses for military purposes, though some efforts have been made to improve the local breed, by imported stallions.

The country consists chiefly of mountains and rice fields, and is unsuitable for horses. To a very large extent human labor takes the place of pack or draught animals.

The horse has not entered into the life of the people. In fact, the Japanese have a peculiar antipathy for the animal, which will take generations to modify.

The average Japanese pony is a straight-shouldered, leggy, cow-hocked, coarse looking brute of about 14 hands, and as there are no

mules in the country, these are the animals with which they are obliged to horse their cavalry, mountain and field artillery.

As may be imagined, therefore, the difficulty of obtaining anything in the shape of a draught horse is very great, and in consequence the weight behind the teams in the artillery has to be comparatively light.

The present 7½ cm. field gun which fires a projectile of approximately 11 pounds, is by no means a "quick-firer" in the true sense of the word, though the recoil is reduced to a minimum by means of formidable drag-shoes under each wheel. These drag-shoes are attached by steel chains to the drag-washers on the outside, and to wire ropes which take a half-turn round an enlarged part of the axle just inside the wheels, and the other ends of which are fixed near the point of the trail.

The axis of the trunnions coincides with that of the axle, and the latter is about 28 inches above the ground.

The wheels are very light and the width of the track is four feet. Thus the whole thing is on a small scale compared with our 15-pr. There are no buffers nor springs to check the recoil, so the strain on the axle must be very great. Artillery officers, however, maintain that at practice both gun and carriage have proved satisfactory, and that 2000 rounds were fired out of one piece at the School of Gunnery without any appreciable strain.

The breech closing apparatus is simple in the extreme. A single motion of a lever allows the interrupted screw breech block to drop backward on a hinge by which it is attached to the lower part of the hood. No obturating pad is used.

Both field and mountain guns are axially vented. The gun is fired by a firing pin and hammer, which act on a cap in the base of the brass case which contains the cartridge. A lanyard is used.

The ammunition is *not* "fixed," but the cartridges are con tained in brass cases, with percussion caps in the base.

With reference to the elevating gear, the latest pattern has a cogged arc attached to right side of the gun actuated by a small cog-wheel in conjunction with a worm and horizontal elevating wheel which are attached to the bracket on the right side.

The Japanese have not paid very much attention to indirect laying. No telescopic sights are carried, but the sergeant at each gun is provided with a pair of indifferent field-glasses.

A hollow steel tangent sight enclosed in a strong brass case, and a trunnion foresight, are used.

The layer looks through an eye-hole in the head of the tangent sight and aligns the two curved tips of the foresight on the object.

There is also a removable clinometer arc reading to 25 meters, which is attachable to a recess on the upper surface of the gun half way between the breech and trunnions.

The gun carriage is fitted with a traveling brake which can be actuated by one of the men sitting on the axle-tree seats.

The limber is composed entirely of metal and contains four trays, each holding ten rounds of shrapnel with cartridges. A box in the center just over the limber hook carries the fuzes, sights and spare stores. Case shot are not used in the Japanese Army, shrapnel with time fuzes set at zero, being considered sufficient at close quarters.

In action one tray is placed just outside the near wheel, and fuzes are always set at the gun.

Unless limber supply is specially ordered, three wagons are brought up and the teams unhooked. The gun and wagon limbers are of course interchangeable, and the wagon body also contains four trays of ammunition. Thus twelve trays or 120 rounds of shrapnel are carried by each sub-division.

A second line of wagons is organized regimentally on mobilization. This, together with the ammunition columns and field park, being manned by reservists.

There are five numbers at each gun in action, and one at the limber or wagon, as the case may be. The No. 1 rides and gives his horse to the lead driver. Three numbers sit on the limber box and two on the axle-tree seats, when the battery moves at a trot; otherwise they generally walk.

The necessary height for artillery conscripts is 5 feet 4.42 inches compared with 5 feet 2.02 for the infantry. Gunners and drivers, field and mountain, are all interchangeable and receive a general training in gun drill and in the care of horses, both draught and pack. The drivers are often far too heavy for the wretched animals of which the teams are composed.

Pole draught and breast harness is used, the wheelers alone wearing breechings. As in the German artillery, the point of the pole is very low, only about a foot above the ground. The traces are attached to springs underneath the footboard of the limber which helps to lessen the strain, when starting, on the somewhat indifferent harness.

The drivers' cloaks are strapped behind the saddles on the riding horses, and the nose bags are attached to short pads on the off-horses. One blanket per man is carried on the limber, but the horses have to depend for warmth at night on their long winter coats.

Wallets are carried on the riding horses. Also a blanket and great coat behind the saddle shoe-pockets. In fact, a terrible lot of gear. The drivers have side arms as well.

With the exception of the officers who wear braided patrol jackets and jack boots, all artillerymen are dressed in blue tunics and trousers with yellow facings and stripes. They also wear Wellington boots outside the trousers.

Though only 18 carbines are allowed per battery, each man is armed with a 2-foot bayonet attached to a brown leather belt.

The ordinary service in all branches of the Japanese active army is three years with the colors, four in the 1st reserve and five in the 2d reserve. Little attention is paid to appearance or smartness in "turnout."

In the artillery, the harness, though made of poor leather, is kept soft with dubbing, and the unpainted parts of the guns and carriages are well greased.

Taking into consideration the weakness in horse flesh and the indifferent driving of the Japanese field artillery, it will be interesting to see how the strain and stress of active service will affect their already limited mobility.

At the late maneuvers, mountain artillery only was employed. It was noticeable that though this branch of the service is extremely mobile and moves a great deal at the double, yet the opposing batteries generally remained in action at extreme ranges. On the defender's side, the batteries were invariably entrenched in well-chosen positions, offering no target whatever to the enemy. Each man

carried his own knapsack, so that the battery transport was reduced to a minimum. Whenever possible, the gun and carriage is put together and drawn by one pony. The "hooking in" process is simple. Two shafts with iron eyes fixed to the points are passed through two tugs, and an iron toggle connected with the breast-piece by a short chain is passed through the eyes.

It would be presumptuous to criticise the fire tactics of the Japanese artillery at the beginning of a campaign in which it will be tested to the utmost by the highly-trained army of Russia.

With regard to the fire discipline, suffice it to say that although one misses a good deal of the quickness and precision which constitutes the smartness of a well-drilled British battery, yet everything is done with intelligence, and the discipline is of the same high order which is maintained throughout the military and naval forces of Japan.

JUDGING DISTANCE.

A SUGGESTION FOR THE BETTER TRAINING OF THE RECRUIT IN THIS BRANCH OF HIS EDUCATION.

By Captain H. E. M. Hutchinson, West India Regiment, Adjutant 1st Provisional Battalion.

(*The United Service Magazine.*)

"Judging distance will form an important part of the training of the soldier."—"Infantry Training," 1902, section 133, paragraph 4.

NOBODY will deny that it is of the greatest importance in modern warfare that every soldier should be able to judge distance fairly accurately. In olden days, when the limit of range of the flint-lock musket was but some 100 yards, this was unnecessary; but nowadays it is essential that every man equipped with a rifle, the effective range of which is well over a mile, should be able to put up his sight confident that the bullet will not strike far beyond or in front of the object aimed at.

I fear it is not possible to expect absolute proficiency on the part of every single soldier, but I put forward a scheme for the instruction of the recruit which should go a long ways toward ensuring every battalion having the greater number of its men well grounded in the elements of judging distance.

The musketry regulations lay down that, on a recruit joining his battalion, judging distance should form a part of his daily instruction. I am of the opinion that to take your recruit of three months' service, and for five or six days of each week he is soldiering, until he has six months' service, to make him judge distance or to lecture to him on this subject—vary your method how you will—is to make him come to the conclusion (and recruits are capable of coming to conclusions!) that judging distance is a nuisance. To induce the recruit to pay attention and do his best you must make it worth his while to do so, since otherwise the instruction is bound to become wearisome, both to him and to his instructor, and he eventually shuffles through it—and so, I fear, does his instructor.

You ought not to expect otherwise. The recruit does not grasp

the importance of being able to judge distances correctly and he has no inducement to improve. I am of opinion—and I am sure most military men are—that a very small percentage of those who annually enlist realize how immensely important it is that they should perfect themselves in their training in peace time so that they may be thoroughly proficient in time of war.

As regards his proficiency with the rifle, it is distinctly made worth a soldier's while to improve. From the time he starts firing his recruit's course of musketry on the range it is to his interest to improve. Good shooting prizes are offered him; the better class shot he is the more does he benefit in such ways as obtaining a permanent pass, etc., and from the 1st April next year, if he is not a second-class shot, he is disqualified from receiving Class 1 service pay. But he can be a second-class shot, or even a marksman, and yet be hopeless at judging distance. In not one practice that he has to fire for musketry classification is he called on to judge the distance of the target.

In modern warfare, besides expecting every soldier to be at least a second-class shot, it is essential that he should be a fair judge of distance. All through any action on a large scale the man who aims the rifle will have to judge his own distance, without any advice except that of his neighbor on either side, and they may be twenty yards distant from him.

Once a man can swim he never forgets the art; the more he swims the better he becomes. In like manner, once a man has got a fair idea of estimating distances he will never forget it; the more he practices it the more accurate will he become; and I am of opinion that after his first six months' service every recruit ought to have a very fair idea of distances—provided always you make the pupil maintain interest in the subject.

How are you going to make your recruit take a lively interest in judging distance each and every day? You must either punish him if he is inattentive by giving him extra daily practice, or else you must offer him some reward to stimulate him. The former alternative is inadvisable. He will never take any real interest if you punish him. How, then, are you going to make it worth his while to always interest himself in judging distance? (*a*) By letting him off a certain portion of his time on parade or other duties? I do not think this is sound. You have now only three years in which to train your soldier. A recruit cannot afford to lose any of the two or three hours a day he spends on parade. (*b*) By giving him extra pay? This is the way I suggest. But I would not reward the individual effort, but the combined efforts of a squad.

If you reward the individual, those men who are good and keen improve, but those who do not care, etc., do not progress, and my experience is that, after a couple of months or so, you have in each squad of recruits some few who give promise of being good distance judges, but the bulk are not much use. I hold it is much more desirable that you should have your whole squad fairly proficient at judging distance than to have one or two of them good and the remainder indifferent at it. It is these indifferent ones whom you want to improve and incite to take an interest in their work.

At present, after six months' service a recruit earns his threepence a day messing allowance. I suggest the following: The unit for the purposes of instruction in judging distance to be a

squad of from ten to twelve men. In their first three months' service I would do no judging distance with them except up to 150 yards. In their fourth month I would instruct them in judging distances from 150 yards up to 600 yards. At the end of the month the squad would be tested at as many ranges as you like by eye (lying down, etc.) and by sound. If the squad as a whole obtains an average on the whole test of 60 per cent. (30 yards over or under the correct distance to count as correct), I would grant each man a penny a day of his messing allowance, and count it as starting from the commencement of his fourth month's service.

Having passed this test, in their fifth month I would instruct the squad in judging distances from 600 yards to 1200 yards. At the end of the month the same test (50 yards each way to count as correct), and if the squad qualifies I would grant each man a further penny a day of his messing allowance, and count it as starting from the commencement of his fifth month's service. In their sixth month's service, the squad having again passed, I would instruct them in judging distances from anything up to 1200 yards, and if they pass the test at the end of the month (75 per cent. being the standard of qualification), I would grant each man his full threepence a day messing allowance from the commencement of his fifth month's service.

A squad that did not qualify in the test at the end of any month would continue being taught to judge the same distances as they had previously been instructed in during that month, and, of course, the men would receive no extra pay.

To give an example: Squad A qualifies every month. Each man receives at the end of his fourth month 2s. 6d. and a penny a day extra pay; at the end of his fifth month 2s. 6d. and twopence a day extra pay; at the end of his sixth month 2s. 6d. Squad B fails at the end of its fourth month's service. It continues judging distances between 150 yards and 600 yards and gets nothing extra. At the end of the fifth month it again fails. It remains *in statu quo*. At the end of its sixth month every man receives, as a matter of course, threepence a day messing allowance, from then on. But for the last three months the men have been earning less than their more fortunate comrades in A.

To the instructor of each battalion who, in the six months, April to September, had obtained the best results with the squads instructed by him I would award £3, and a similar amount to the instructor who obtained the best results in the six months October to March.

By this system you would most certainly make your recruits take a lively interest in judging distance, and you would insure them all having a fair idea of distance. Those of each squad who showed any particular aptitude at it would make the dullards improve. It touches their pockets! The squad B, quoted above, even if it failed after its fourth and fifth months to reach the standard of qualification for distances up to 600 yards, would surely qualify up to that distance at the end of its sixth month. And it seems to me better that the squad should then have some idea of distances to 600 yards than that the majority of its men should have none of any distance up to, say, one mile.

Such is my scheme. I am perfectly well aware that there are many objections to it—amongst others, standing easily first, the additional expense its adoption would entail on the public! I am

not so self-opinionated as to think that a great many better schemes cannot be evolved by persons more capable than myself. My only excuse for laying it before the readers of the *United Service Magazine* is the hope that it may make thinking people realize that a great deal more ought to be done towards making the modern soldier a proficient judge of distance, and that, to ensure this, you must make him take real interest in it.

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Offering Prayer to the Sword God Before Beginning to Forge the Sword.

THE SOUL OF THE SAMURAI.

By Harold Carruthers

(*New York Evening Post.*)

"THE girded sword is the soul of the Samurai." So says one of the oldest and most famous legends of Japan. In every country the sword is honored, but in no country has it been made the object of such reverence as in Japan. It is at once a divine symbol, a knightly weapon, and a certificate of noble birth.

"The Japanese sword has been the precious possession of lord and vassal from times older than the Christian era," said the Hon. Inugai Ki, a member of the Japanese Parliament and a "samurai" by descent, who recently visited America. "From the tail of the

dragon was born the sword which the Sun Goddess gave to the ancestor of our Imperial Household. By the sword of the clustering clouds of heaven Prince Yamato-dake subdued the eastern part of our country. By the sword our mortal heroes won their fame."

The spirit of old Japan, which is expressed by those untranslatable words "Yamato Damashii," that mean so much more to a Japanese than an Occidental can understand from their nearest foreign equivalents, centered in the sword. It stood for honor, art, romance, poetry, all that made life worth living. If the sword were abstracted from the history of Japan there would be hardly anything left.

The names of famous swordmakers are preserved through the ages, like those of monarchs. The first of whom there is record in Japanese annals was named Ameno Miura. He wrought his weapons in the reign of Jimmu Tenno, the founder of the present dynasty of Japan, about 660 B. C. So that the dynasty of the swordmakers of Nippon can claim to be as ancient as that of the Emperors. Legends tell of the wondrous qualities of Miura's swords of copper and iron, but unfortunately none of them is now extant.

THE EARLY SWORDMAKERS.

There were many good swordmakers after Miura, but the next who bulk largely in history and tradition are Yasutsuna and Sanemori, who were famous in the days of the Emperors Kojin and Heijo (770-809 A. D.). Their iron swords are cherished as sacred heirlooms in noble Japanese families to this day. They have been borne into battle by the head of the house, generation after generation, for a thousand years, and have never been broken or surrendered. No wonder that the great "samurai" families who still rule Japan do not fear to try conclusions with the greatest military power on earth when they look upon these swords and think of all they stand for.

The golden age of Japanese swordmaking was in the reign of the Emperor Gotoba, 700 years ago. He was an enthusiast in the art. He summoned smiths from all parts of the country to his capital, and the imperial palace at Kioto resounded from end to end with the merry clang of anvils. The Emperor himself took the hammer in hand, and welded the iron like an expert. Some of the swords which he made are still preserved, and have his signature, "Gotoba Tenno," upon them, for all the famous swordmakers of Japan signed their work, just as artists sign their pictures.

A hundred years later, the famous Masamune came upon the scene and revolutionized the sacred art by inventing what is known as the "Soshu" method of swordmaking. Hitherto the smiths had found it hard to strike the happy mean between hard and soft iron. If the metal was too hard the blade was brittle and often broke at the first hard blow. If too soft, it bent easily. Masamune discovered the secret of welding hard and soft iron so as to make a practically perfect blade. He had ten disciples, who became famous with him, and the swords made by these eleven men are the most highly prized in Japan to-day. Anybody who tries to expound the archæology of Japanese swords and who does not refer reverently to "Masamune no jittetsu" (Masamune and his followers) may be regarded as an impostor.

Masamune used to make the finest blades at midnight, after purifying himself by an ice-cold bath and donning the peculiar cap and decorated apron which were the sacred emblems of his profession.

Like all the great Japanese swordmakers, he lived the life of an ascetic for a time and purified himself of all gross and earthly passions before commencing one of his masterpieces.

JAPANESE REVERENCE FOR THE SWORD.

Every man who has counted for anything in Japan has loved swords as he might love his children. Shoguns and Emperors have vied with one another in showering honors upon the most famous swordmakers of their day. Hideyoshi, the greatest warrior of a warrior race, was a celebrated collector of swords and patron of the art. He would go out into the country for days at a time, searching for new smiths unknown to fame, but masters of their craft. And when he found one, toiling in some obscure country village for a bare subsistence, he would give him fine robes to wear, treat him in princely fashion, and hail him as a brother. So it was with all the great potentates of Japan from time immemorial.

The "samurai" in ancient times were followed by retainers carrying swords as long as two feet and seven inches, sometimes more than three feet in length. The swords which the "samurai" himself wore were rarely shorter than two feet seven inches. The ancient heroes, however, used to carry swords more than four feet long, but during the sixteenth century the use of long swords became less frequent and swords two feet two inches long were most common. The long swords were not thrown away, for in Japan the sacred weapons are handed down from father to son as a most precious heritage. They were shortened, and in the process of cutting down the names of the ancient makers were frequently obliterated. Thus it is that some of the oldest and most valuable swords in Japan to-day —swords worth far more than their weight in banknotes—appear to the uninstructed eye to be forgeries because they are not signed.

In the early ages of Japan the sword was swung loosely from a girdle; but in the sixteenth century the fashion of thrusting it in a sash, which seems so queer to an Occidental eye, was introduced. It was handy to have the sword swung in the old days when the bow was commonly used in battle, but later on the spear was a more usual weapon, and the disposal of the sword in the sash then became more convenient.

SWORDS SOLD TO TOURISTS.

The so-called Japanese swords brought home by tourists or purchased by foreign collectors are not representative of the handicraft. They are too elaborately decorated to be mistaken for one instant for "samurai" swords, the swords that inspired "Yamato Damashii." The old swords were made for use, not for show; and they are not in the market. They are treasured in "samurai" families, who would not sell them even to save themselves from starvation. Very few of the old swords had the broad, decorated blades common to-day. The famous swords of Awadaguchi and Koziben were narrow, finely tempered, workmanlike weapons. Those made by Masamune and his ten followers were the only old swords that had broad blades worked in the elaborate patterns familiar to foreign connoisseurs. But in spite of the woven patterns which generally weaken a blade, they were not easily broken, owing to the skilful manner in which soft and hard iron were welded in their manufacture.

After the seventeenth century too much attention was paid to the decoration of the swords. The makers vied with each other in pro-

ducing ornamental blades, and lost sight of the primary purpose for which the weapon was intended. The blades were as brittle as ice, and broke at the first blow. As they were produced during a period of uninterrupted peace, lasting for 250 years, this did not matter so much as might be supposed. But many of these same swords were carried by officers of "samurai" birth during the war with China, and they often broke at awkward moments. After the war, an army order was issued forbidding the future use of any swords produced during this degenerate period of Japanese swordmaking. These are the weapons sold to unsuspecting tourists to-day as the finest works of the old masters. * * *

RUSSIAN AND JAPANESE FIELD GUNS.

COMMUNICATED BY THE SECRETARY.

(Proceedings Royal Artillery Institution).

THE following details of the Russian and Japanese field guns, rifles, etc., may be of interest at the present:

FIELD ARTILLERY.

Russia.—Till recently the Russian Field Artillery has been armed with (*a*) 3.42-inch guns firing 15½ lb. shells, with a M.V. of 1700 f.s., and weighing 38 cwt. in draught; several patterns of these guns were and are in the service. (*b*) 4.2-inch guns, firing 28lb shells with M.V. 1450 f.s., weight in draught 42½ cwt. (*c*) 6-inch mortars firing 60-lb. shells with 760 f.s. M.V., weight 41 cwt.

In 1897, Russia took up the question of re-armament of her Field Artillery, and experiments were continued till 1900, when a pattern (3-inch calibre) was approved and large numbers (it is said 1500-2000) were ordered. The Russians do not seem to have been altogether satisfied with this gun, as it appears further trials were undertaken, and a new pattern was approved in 1902, and orders for the supply of this gun have also been given. No details have been published of this latter (1902 pattern) gun, and it seems doubtful if it has been yet issued for service. Details of the 1900 model are given in the table below; it does not seem to be strictly speaking a Q.F. gun; the gun recoils on the carriage, recoil being checked by a hydraulic buffer and by india-rubber pads* which also run the gun out again; the carriage jumps somewhat on firing, the sights recoil with the gun, there are no seats for the layer or other number to sit on, and there is no shield. Fixed ammunition with shrapnel shell only (it is believed). is employed with this gun. The breech mechanism is of the interrupted screw type.

As the 3-inch Model 1900 guns are issued, the 4.2-inch guns are withdrawn; it is also understood that the 6-inch mortars are regarded

* India-rubber pads have been in use in the Russian Artillery for some time, and have been favored by General Engelhardt who has been responsible for much of the Russian equipment. These pads are used in the 3.42-in. Model 1895 gun-carriage and in the 6-in. mortar, to lessen the blow on the axle-tree.

as out of date, and they are possibly being replaced. (They were introduced after the war of 1877-8).

Japan.—Up to 1901, Japan had a bronze 9-pr. Krupp field gun, but in that year a new pattern steel gun was issued and re-armament is now complete. The new gun is known as the Arisaka gun, and not many details have yet been published about it; it has screw breech mechanism and recoil is checked by drag shoes with spikes or spades underneath. "Separate" ammunition is used. The Japanese mountain gun is similar to their field gun, but has an M.V. of 850 f.s., and a range of 3000 yards. The field artillery ammunition columns are formed of 2-wheeled one-horse carts and of pack animals.

	RUSSIA.		JAPAN.
	3.42-INCH MODEL 1895.	3-INCH MODEL 1900.	ARISAKA.
Calibre, inches	3.42	3	2.95
Weight of shell, lb.	15½ lb.	13½ lb.	11 lb.
No. of bullets in shrapnel	200	260	—
Muzzle velocity	1700 f.s.	1950 f.s.	1660 f.s.
Estimated rounds a min.	5	16	6 to 7
Range with time fuze, yds.	4500	6000	5000
No. of rounds in limber	30	36	40
Diameter of wheel, inches	55	52	55
Weight in draught, cwt.	38 cwt.	35 (?37) cwt.	—

The Russian Horse Artillery is armed with a 3.42-inch gun very similar to the field gun of that calibre; its M.V. is, however, only 1600 f.s., and its weight in draught is about 32¾ cwt. All Russian field batteries are 8-gun batteries; Horse Artillery batteries have 6 guns only.

Allotment of Artillery.—A Russian army corps comprises 2 infantry divisions with 112 guns and a cavalry division with 12 guns. Each infantry division includes 2 infantry brigades (each brigade being composed of 2 regiments—8 battalions), and one field artillery brigade which has 48 guns in one division and 64 guns in the other division of the army corps; the strength of a division may be taken as about 14,000 infantry and 48 (or 64) guns.

The Japanese regular army is not organized in army corps, but in 13 divisions. A division includes 2 infantry brigades (each of 2 regiments of 3 battalions), one cavalry regiment (about 400 sabres), and one artillery regiment (field or mountain) consisting of six 6-gun batteries. The strength of a division is about 10,000 infantry and 36 guns.

SMALL ARMS.

Small Arms.—The following are the chief particulars of the rifles used by the two nations:

	RUSSIA "3-LINE" 1891 PATTERN.	JAPAN "30TH YEAR" 1900 PATTERN.
Calibre	.3-inches.	.256 inches.
Muzzle velocity	2,000 f.s.	2,300 f.s.
Weight of bullet	213 grains.	163 grains.
" with bayonet	9 lb., 12 oz.*	9 lb., 8½ oz.
" without bayonet	—	8 lb., 9½ oz.
Rounds in magazine	5	5
Loading system	Charger.	Charger.

The Japanese "30th year" rifle superseded the Murata rifle which had a calibre of .314 inches, and fired a 225-grain bullet with a M.V. of 2000 f.s. It had a tubular magazine in the fore-end holding 8 cartridges.

SOUTH AFRICA AS A BREEDING GROUND FOR REMOUNTS.

By Colonel J. Hotham, R.A.

(*Proceedings, Royal Artillery Institution.*)

THE question of horse breeding in South Africa, with a view to providing remounts for both South Africa and India having been brought forward a good deal lately, the following notes may, perhaps, interest some of your readers.

India in old days drew a large number of very useful horses from the Cape, and I personally well remember a very useful lot, some 20, in a battery I had the honor of serving in at Kirkee in 1875.

The Australian market then began to open up and the Cape market died down, the supply of horses in the Colony, I fancy, not being more than equal to the home demand.

There are districts in the Cape Colony, Orange River Colony, Natal, and also a few in the Transvaal, specially suited in all respects for horse breeding where at the present time a very good stamp of small horse is bred, and where, with Government assistance and supervision, I feel sure a large number of horses of a superior stamp and with more substance could be raised.

The subject of breeding has been taken up very much by His Excellency the Governor of the Orange River Colony in that colony. Sir A. Lawley, the Governor of the Transvaal, has also started a stud farm at Standerton, and puchased both mares and stallions. In the Cape Colony, Mr. Henry Nourse, a great enthusiast on horse breeding and a gentleman who breeds on a very large scale himself, has gone into the matter and has written a most valuable letter on the subject,

* Bayonet always to be carried fixed; scabbards being left behind on service.

which is thoroughly practical, and there is probably no one in South Africa at the present moment who has more practical experience on the subject.

Big Government stud farms have been advocated by some, but although I think the Government might keep a few mares at depots in one or two of the best districts, from the experience in India of big stud farms, and also in other countries, this system is not to be recommended on the score of expense, probably for the reason that Government establishments are not, as a rule, run on very business lines, and also that men to superintend these farms and depots in India were not always chosen for their knowledge of breeding and of horses generally, but often perhaps were given the appointment because they were good fellows and wanted a nice billet.

It would appear from statistics and the experience of other countries and India that the best way to foster horse breeding and the least expensive, is to encourage the farmers to carry it on by:

(1.) Providing a good supply of Government stallions of approved and different types in every district where horse breeding flourishes; these stallions to travel the district during the season and serve all approved mares at a nominal price.

(2.) The registration of all private stallions; none but those passed by a Government inspector as suitable, and with no hereditary unsoundness, being allowed to travel and be used.

(3.) The distribution of Government mares, which are cast from the Army (for no hereditary disease), among farmers in horse breeding districts at a merely nominal price; these mares to be registered and branded.

(4.) The purchase of young stock from the farmers at the age of one to three years.

In each district there should be a Government stallion depot where the stallions would stand in the non-covering season. To this depot should be attached a farm of some three to four thousand acres, well watered and with good grazing for young stock.

The officer in charge of each district should be specially selected for his knowledge of breeding, and under him would be a veterinary surgeon and a small staff. He would, among other duties, register all mares in his district, all coverings, and all foalings, and keep a record of all young stock. He would also be responsible for the distribution of the mares and the purchase of likely young stock.

The stallions should travel their district regularly and their arrival at fixed places be well advertised so that the farmers could send their mares to meet them.

The young stock chosen should be purchased for choice when quite young, from a year old and upward. It has been found, after long experience in India, that the starving of the young stock (between the ages of one and three years) during the winter and dry season by small breeders seriously stunted their growth and development. The Indian horse breeding commission that sat in 1901 strongly recommended the buying of stock quite young, and the turning out of the young animals on Government farms where they would have ample food.

The governments of all great countries except our own encourage horse breeding very generously. France has, I believe, at this moment some 3000 stallions of different types traveling the country, and Germany and Austria both spend vast sums on stallions and

horse breeding generally. A farmer in these countries can also secure the services of a good horse at a very small price.

In India there are distributed throughout all horse breeding districts, both by the Imperial and the district governments, a large number of very good stallions; breeding has not been in that country up to date a very great success through faulty management in some degree, but doubtless under the new system recommended by the 1901 commission, it will show much better results.

On the question as to what is the best type of stallions to encourage, there will always be a great diversity of opinion.

We must settle first what we wish to breed. There are two classes of horses specially desirable:

(1.) A horse for military and riding purposes, about 15 hands, with quality, strength, endurance and courage. This class of horse will also do for light harness work.

(2.) A horse for artillery, agricultural and heavy harness work, and draught generally. This horse must also have quality, endurance, and courage, but will want more substance.

The older and purer the breed of horse the more certainly will that breed transmit its character. As our thoroughbred is descended from the Arab, the oldest and purest breed, we come first to him.*

The Arab has already stamped his characteristics in this country, and the merits of the Basuto pony come, no doubt, from the imported Arab. Also throughout the Cape Colony, Natal, and the Orange River Colony, many of the hardy little horses show a deal of Arab blood.

I believe the Arab was, in the first place, brought to this country by retired Indian cavalry officers, who, settling in Natal and the Colony, brought with them their Arab chargers.

In Basutoland, especially, the Arab has been fostered and much used; the writer was pleased to hear last year that six excellent Arabs had been brought from India for that district.

Most people will, I think, agree that the Arab should be largely used in all breeding districts of South Africa. By the Arab is meant the true child of the desert, not the heavy-necked, pig-eyed Persian, so-called Arab (although the latter is a very useful horse, indeed).

The writer has bought and owned large numbers of Arabs, both race horses, hunters, and polo ponies for the last thirty years, and has a fairly good knowledge of them; no horse is as generous, none so hardy, bold, or enduring, and none can do with less and worse food than the true Arab.

He varies in height from 14 hands to 14.2, rarely bigger, but will carry 14 stone pig-sticking all day in the hot weather and day after day.

From the Arab sires crossed with the mares in this country we get hardiness, endurance, good feet, dense bone, and quality. Having got this we may cross the mares with good specimens of thoroughbreds (descendants again of the Arab) to get size.

Short coupled, compact horses of 15.2 to 15.3, with good feet and bone, should be purchased, and they can be got by paying for them.

The writer strongly recommends a proportion of sires being imported from Australia. The Australian horse has good bone and as a rule, good feet, and the climate of that country is similar to that of South Africa.

* In this connection see also "The Horse for Military Purposes, etc.," JOURNAL, May, 1904

The Indian Government has, for the last six or seven years, imported yearly some very fine specimens of stallions through Messrs. Kicrouse and Madden of Melbourne and selected by that firm.

We now come to stallions for breeding artillery and draft horses.

Shires, Clydesdales, and other hairy-legged coarse horses would be, in the writer's opinion, quite out of place in South Africa.

Of all the heavier breeds,the Cleveland Bay (a pure and very old breed), bred in the North Yorkshire hills, and also the Yorkshire Bay coach horse would appear the most suitable.

America, Canada and Australia have, for years, been purchasing these classes of horses and their offspring are now being brought from America and Canada to England by hundreds. We see them in all the carriages, busses and tram cars in London. We find them also among our gun horses in India (the best in the world) imported from Australia.

The Cleveland Bay is pure bred; he is hardy, has quality, flat clean legs, is very docile and game, and has great endurance and power. He makes an excellent draft and plow horse, and the mares crossed with a good thoroughbred throw very good weight carrying hunters. There is no horse more suitable for artillery work.

The writer has lately been reading an article in the Transvaal *Agricultural Magazine* by Sir A. Pease, Bart., who writes in high praise of this type; his ideas are quoted in these notes. No one knows the breed better than Sir Alfred, and there are few better judges of a horse of any type.

We next come to the hackney. The Indian Government's experience of hackneys is a very bad one. The writer has been buying horses in the Indian markets in most districts for the past twenty-five years off and on, and is of opinion, with most others, that the hackney has, in the last twenty years, done more harm to Indian horse breeding than can be remedied in the next forty.

It is admitted that the class of hackney imported to that country as a rule was a poor one. In Hungary again the importation of hackney blood has done more harm than good, except as to breeding high-actioned horses for fiacres in Buda-Pesth and Vienna, which are useless for any other purpose, and have proved so.

Some stallions bred in the country should also be used. They are to be got, although not in very great numbers, but they are hardy, good horses with quality, on sound legs and feet and are acclimatized.

In the best horse breeding districts in the country there are still many Colonial mares left, which, although small, are of excellent quality, good bone and constitution. There are also now many imported mares and very good ones, English, North American, Australian and others. With careful breeding, a good selection of sires and good feeding when young, the stock would increase a great deal in size.

Mr. Henry Nourse, I know, recommends lucerne most highly in this country for young stock. I should also, after twenty-five years' experience of it, recommend "Doub" grass or "Hary ali." Large tracts of it could easily be cultivated round all stud farms; it grows well in this country, as it does everywhere, and is looked on by arable land farmers as a pernicious weed. With deep trenching and heavy manuring, four to six crops a year may be grown in India on high light soil (Indian grass farms). There is no better hay grown than that made of Doub grass; the roots are excellent feeding also, being

full of sugar, and horses fed on this grass put on muscle and sound flesh rapidly. You cannot kill the roots, and the more you disturb them in the ground, the more they spread and grow.

Horse breeding alone will not pay any farmer, but, if farmers find a ready market for young stock and have the services of first-class stallions at a nominal price and brought to their doors, a few mares will assist them greatly.

The Dutch farmer is not a pushing man, but has plenty of sense to realize this. Also he is naturally fond of horses, and from his system of living and the long distances he has to travel, makes great use of them. He is rather inclined, however, I think, to starve them when young.

In Australia, the class of horse bred in the last few years has not improved, and in that country also the registration of stallions, and also the support of the Government in providing suitable stallions, is much required; the large shippers will support the statement, I am certain.

During the war also, many breeders, on account of the high prices given for horses, parted with their best young mares, and it will take years to recover their loss.

In no country, however, is the support of the Government more wanted than in England. How many Government stallions are there per 50 square miles?

Again, the service of the stallions that there are is at such a high figure that farmers cannot afford it. Also the stallions are not brought to their doors. In consequence also of private stallions not being inspected and registered, or licensed, the number of unsound stallions traveling the country is great.

There is little or no inducement to farmers to keep their young mares, and they are sold often at three years to go abroad. I almost think that the export of young mares should be taxed.

To any one who has attended the local shows in Ireland of late years, the lack of good sound young brood mares is most marked; and although the Agricultural Societies give good prizes for all classes of mares, it becomes often very hard to decide, when in the ring, which are the best of a really bad lot of old worn-out animals, half of which are not returned from the veterinary paddock as sound enough to be awarded a prize.

The writer has just read an account of the German horse breeding in Southwest Africa. Already there they have Government studs, and have imported English thoroughbred sires which they are crossing with the country mares, and are gradually distributing stallions throughout the whole district.

SOLDIERS' SONGS.

(The London Globe.)

IN adopting an official marching song for the British Army, the War Office has the support of modern military experts and immemorial custom. Music has always played a great part in fighting, and Lord Wolseley declares that "troops that sing as they march will not only reach their destination more quickly and in better fighting condition than those who march in silence, but, inspired by the music and words of national songs, will feel that self-confidence

which is the mother of victory." But whether Tommy Atkins will take kindly to the song composed for him may be doubted. Such things do not come about by order and decree. The British soldier is musical only in a limited degree. An American war correspondent noted in the late South African campaign that, while every group of soldiers had a man who sang the latest music hall songs, the men seldom sang in concert either on march or in camp. Rarely or never does a regiment or even a full company sing in unison.

Nor are the songs sung martial or national. There is no record that "God Save the King" or even the more stirring "Rule Britannia" has ever been sung by our troops as a battle song. At Waterloo and in the Crimea there are stories of regiments breaking forth with the rousing "British Grenadiers." But Tommy's real favorites are sentimental ditties of the order of "The Girl I Left Behind Me." That has been sung more often by British soldiers as their hymn before action than any other song. The tune was formerly known as "Brighton Camp," and, dating from 1640 in Ireland, came to England about a century ago. In the Boer War, Tommy solaced himself with music hall songs, and that a more seemly composition, produced under the ægis and with the approval of the War Office, will supplant them may be more than doubted. When the British soldier is fighting he fights so stiffly that the inevitable reaction turns his thoughts to homely sentiment. In more than one veldt engagement he was seen and heard pinging bullets into the Boer lines to the vocal accompaniment, not of a lofty, patriotic measure, but with the philosophic assurance:

> You have all got to have 'em,
> Whether you want 'em or no.

But the popular song of the war was a pathetic doggerel describing a soldier's dying message to his home; and at times every camp was filled with the doleful, yet truly tender, refrain:

> Break the news to mother;
> Tell her that I love her.

The British Navy has a treasury of sea songs, which require no official addition. In a sense, indeed, Charles Dibdin was the subsidized writer of songs for the Admiralty. His naval duties were so influential in assisting recruiting for the navy in the busy times of the eighteenth century that the Government gave him a pension of £200 a year. But there is only one national hymn which is also an accepted war song. That is the glorious "Marseillaise," "the sound of which," wrote Carlyle, "will make the blood tingle in men's veins; and whole armies and assemblages will sing it with eyes weeping and burning, with hearts defiant of Death, Despot and Devil." How Rouget de l'Isle, an insignificant captain of the volunteers, marching to oppose the Duke of Brunswick's invading army, heard a comrade regret that the soldiers had no battle song,and thereupon returned to his garret and, under sudden inspiration, wrote the "Marseillaise," is history. "Luckiest musical composition ever promulgated," declared Carlyle. But it is notable that all truly national songs have had such lucky births; they have been written, like the "Marseillaise," by amateurs in fits of spontaneity. An otherwise unknown German schoolmaster, named Wilhelm, wrote and composed "Die Wacht am Rhein." This, not the "Hymn to the Kaiser," was the "soldiers' song" during

the war against France. They sang it on their march to Paris, at Sedan, and on their victorious return to the Fatherland. The readjustment of boundaries under the terms of peace removed any pressing reason for maintaining the "Watch on the Rhine," but it is stil Germany's national song.

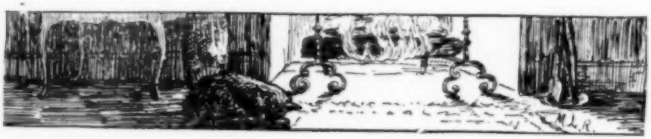
Italy received its Garibaldian hymn in the same spontaneous way. Its authorship is entirely unknown; probably it was written by some patriot in Garibaldi's army with the simple object of giving his comrades a tuneful and lively song to cheer the march. But it won the ear and touched the heart of Italy and is more truly national than the anthem since officially composed and adopted by the Government. Again, in the American Civil War, the song of the troops was not the officially national "Hail Columbia," but the much more simple and thrilling

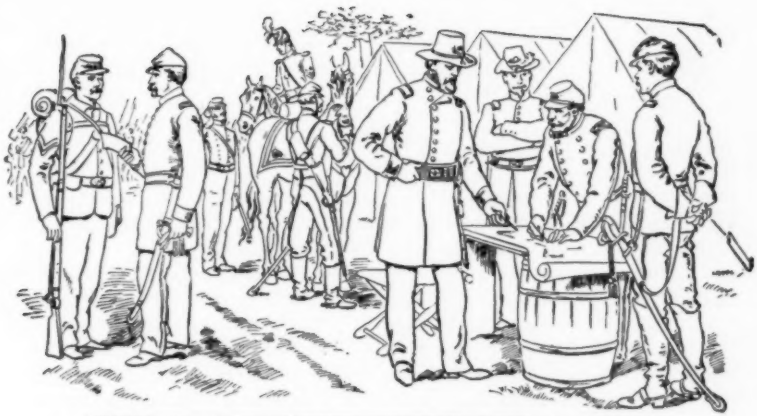
> John Brown's body lies moldering in the grave,
> And we go marching on.

In the Japanese army it is the custom for the soldiers to sing as they go into battle and rush to the charge. The practice was remarked during the operations of the Allied Powers against Peking. Their favorite song is the "Kimi Gayo," or national anthem, which has been Englished as follows:

> May our Lord's dominion last
> Till a thousand years have passed
> Twice four thousand times o'ertold!
> Firm as changeless rock, earth-footed,
> Moss of ages uncomputed.

In the Russian army tests were made a few years ago to ascertain the value of marching songs, and the results so confirmed Lord Wolseley's dictum that the regulations now decree that regiments on march and in advancing to charge shall sing national songs. In the Austrian maneuvers of 1900 Gen. Kryanowsky made a curious experiment as to the use of songs as a means of locating the position of the battalions of an army corps. He directed each division to learn a different war, or folk, song, and to sing it when attacked or going into action. Thus from the music the headquarters staff was able to discover at a distance what battalions were under fire and attacked by the enemy.





Comment and Criticism.

"Is There Necessity for a Second West Point?"

Lieut.-General John M. Schofield, U. S. A., Retired.

I have read the paper from Prof. Samuel E. Tillman of the Military Academy, entitled "Is There Necessity for a Second West Point?" I concur quite generally in the views expressed by Prof. Tillman in that paper. A necessity has, I think, long been manifest for a division of the course of instruction at West Point into two distinct courses, the one for engineers, ordnance and artillery, and the other for infantry and cavalry, though, doubtless, the first part of each course would be the same as that of the other. There are undoubtedly good reasons for the view taken by Prof. Tillman that a course of instruction can be better carried out with a comparatively limited number of cadets, though that in itself would perhaps not be sufficient to justify the expense of establishing a separate institution, but the topographical limitation of West Point makes it practically impossible to carry on the necessary practical instruction there, especially the cavalry and light artillery, if any considerable increase is made to the present strength of the Corps of Cadets. Hence, it is apparent that at no distant future time an additional school must be established auxiliary to the military academy at West Point. My own view has long been that such auxiliary should be in the nature of a preparatory school, where, after a comparatively short period, not to exceed two years, cadets might be selected according to their qualifications, and sent to West Point, where the higher courses of

engineering, ordnance and artillery will be taught, while the remainder who pass the requisite examinations could be sent directly to the infantry and cavalry schools. I agree perfectly with Professor Tillman that any further increase in the Corps of Cadets at West Point is not to be desired.

ST. AUGUSTINE, FLORIDA, May 11, 1904.

Brigadier-General William Crozier, U. S. A.

There is much in this paper which it is easy for those interested in the Military Academy to agree with, as might be expected in any presentation from one so thoroughly conversant with that institution, and so efficiently connected with its excellence, as is the writer of it. There is little trouble to admit that those of the Academy's best methods, to which its excellence must be mainly attributed, could not be advantageously spread over a much larger number of cadets than that which now forms its ordinary complement. But the inquiry arises as to whether it is necessary, or judicious, to attempt the "intermediate education" at Government expense of a much larger number, by either of the methods which are discussed. I am not disposed to admit that such education is necessary for all the officers of the army, or that it is worth in returns of service, especially in the lowest grades, what it costs. There is little opportunity in the service of officers as lieutenants of cavalry or of infantry to utilize the qualities which are especially inculcated, and the accomplishments which are attained, by the expensive West Point education; and the amount of such utilization may be so small that the government gets but a slight return for its investment from service in this grade, except as such service contributes to the continuation of the education of the officer for higher and more responsible duties.

For this continuance of education five years in the grade of lieutenant is certainly enough, and all that increases the usefulness of the officer or fits him to be a better captain; it is probable that after five years spent as a lieutenant subsequent service in that grade tends rather to stunt his growth, and to diminish his interest and energy as a company commander, rather than to increase these qualities. But with the present organization of the Army, and under the present laws in regard to promotion, the normal service of officers in the grade of lieutenant will average at least twenty years. This estimate is not only that which results from computation, made in accordance with actuary methods, but it agrees with the evidence of experience. After the change of organization of the Artillery in 1898, the positions of the officers of the army were such as the normal operation of existing causes would bring about at the end of a long period of peace; and by examination of the Army Register for the year 1899 it may be seen that there were graduate

lieutenants of over twenty years' service in all branches of the line. No change has since been effected calculated to bring about a different result in the long run, and under normal circumstances.

The graduates of the Military Academy on the active list of the Army, as given by the last Register, number 1475. It is believed that without changing the character of the instruction imparted at West Point, and without departing from the methods which have there met with approval, the average size of the graduating classes, thought to be less than 50, which have produced this number, could be doubled, a very slight increase, if any, in the present size, which in time would increase the number of graduate officers to 2950. A rough computation shows that this number of graduates would be sufficient to furnish all of the general officers; all the officers of the Adjutant-General's, Inspector-General's, Judge-Advocate-General's, Engineer, Ordnance and Signal Departments; all the field officers of the Quartermaster, Commissary, and Pay Departments; all the field officers and one-half the captains of artillery, and all the field and staff officers of cavalry and infantry for an army of 300,000 men; without taking into account the many experienced and capable non-graduate officers who are always found in the service, members of whom would and should be in the upper grades. With the assistance of this last class it is believed that an army of 500,000 men could be efficiently and satisfactorily officered, provided a system could be inaugurated for inducting into the higher grades those who were best qualified to fill them; among which, if the maintenance of the Military Academy is justified, would naturally be found a large proportion of its graduates.

This reasoning leads to the belief that West Point could supply all of the specially educated officers who are needed, and that efforts should be directed to a better utilization, in subsequent service, of its product, together with other good product, rather than to an increase thereof, either by the method of its enlargement or by that of the establishment of a second military school; both of which would involve a large increase of the expense of military preparation to which our country never takes kindly.

From observation of my fellow cadets, and from experience at the Academy as instructor, it is my belief, as suggested by the writer of the paper, that a considerable number of the cadets, perhaps as many as one-half of each class, do not achieve such mastery of the more advanced portions of their course as to promote their confidence in the efficacy of the methods of closely-applied study which they are required to follow. As not expected to be subsequently used, and only designed for training, this portion therefore with regard to these cadets fails of its object, and would better be exchanged for something more useful. Such a change for the proper portion of each class could easily be made at West Point, without the division

of the Academy, and without separation of the classes, and while retaining all the advantages of that admirable institution with its principles of efficiency, in practice there and not elsewhere in the Army; among which the most effective is conceived to be the stimulation resulting from the selection and elimination which are constantly going on, and which are not reproduced in any of the service postgraduate schools, where the penalties of failure are much less severe and certain than at West Point and there is practically no reward of success.

May 21, 1904.

Brigadier-General Henry C. Hasbrouck, U. S. A., retired.

Professor Tillman's views in regard to the necessity for two military academies for the intermediate instruction of cadets, before receipt of commissioned rank in the army, will provoke discussion and opposition. A graduate retains through life, together with affection for his alma mater, strong impressions of West Point associations, and the lessons instilled in him there. When he is commissioned he acquires interest and pride in his own arm or corps; this grows with his participation in its work, successes and sacrifices, and with a fuller acquaintance with its history and traditions. West Point and his own arm become closely banded together by many ties; he would regret the severance of these ties and loss of association with West Point in the future. These sentimental considerations are deeply seated and hard to overcome; if they can be put in the background Professor Tillman's able arguments will be better appreciated. West Point has admirably fulfilled its duties to our small regular army up to the present time, and has accomplished all that its supporters and friends could expect. My experience at the Academy confirms Professor Tillman's statement of facts and deductions therefrom. I think he is right in claiming that the West Point methods which have produced such admirable results in the past, cannot be successfully applied to a large number of cadets. If West Point is alone retained, the Academy will be conducted, as heretofore, principally for the benefit of the scientific corps, or its methods and courses will be modified so as to turn out better officers for the line. I do not believe it can maintain its old prestige if it takes a middle course and tries to prepare officers for both line and technical duties. In case of a large increase in the army and in the number of cadets, two academies, each at its own location, one for training officers for technical and scientific military duties, and the other for the education of officers for purely military or line duties, would, I believe, produce the best results. While the methods of instruction should be similar, the curriculum could not be profitably made the same in each academy. Thorough instruc-

tion in mathematical and scientific subjects to the extent necessary for the requirements of professional work, and for developing the mind and forming character, is necessary in both. The utilitarian and disciplinary course for an officer of the engineers, ordnance or coast artillery, is necessarily more extended than that for an officer for the field artillery, cavalry, or infantry. I think many cadets who graduated in my time failed to master the disciplinary course then prescribed, and that the efforts made by them were not conducive to efficiency, mental growth and self-confidence. Among these were some of the most manly and soldierly of their classes. I am confident that a course specially adapted to their preparation for the discharge of purely military duties would have been far more congenial and beneficial to them than the course they had to take. In addition to the study of tactics, strategy and military history, practical tactical exercises for field artillery, cavalry and infantry separately and combined, should be a prominent objective in a school for officers of the line. The reservation at West Point affords no facilities for such exercises. Separate courses for each class at West Point, according to class standing after a trial period, would involve many difficulties, and add to the disadvantages of our present system of selecting cadets at the top of the class for the scientific corps. This system is not conducive to harmony and comradeship in the army. The line should not be considered by any one, in or out of the service, as inferior in any way to the technical and scientific branches. If we had two academies the mental standard for admission to the school for the staff, should be higher than that for the line; but with the same limits for age, and physical requirements at admission, and equal rigid exactions for proficiency in the courses prescribed for each academy, the diploma from one would carry as much honor as one from the other. A commission in the line would be held in as high esteem as one in the staff, and officers of both would be better prepared for their respective duties. Hitherto there has been no lack of harmony among our officers who come from West Point, the ranks or civil life, and I believe that two academies would add a generous rivalry and increase rather than diminish that comradeship and harmony.

Major William P. Evans, Asst. Adjt. General.

The question propounded by Professor Tillman is one which has doubtless suggested itself in recent years to many who are interested in the cause of military education in the United States. It is one to which an early and definite answer should be given, so that the system or policy to be pursued shall not halt for the want of a definite purpose, and thus lead to a diffusion of energy. Professor Tillman has but formulated the question and placed before the public in

terms the ideas which in a vague way have existed in the minds of many since the expansion of the Army begun in 1898. His valuable services to the Academy and to the cause of military education lend great weight to the opinions expressed by him, and many of us will hesitate to openly dissent from his conclusions, even though we may not wholly agree with him.

The Military Academy enters upon the second century of its existence under conditions which indicate the possibility of revolutionary changes. That the Academy must change as time passes is a necessity. Growth is a condition of its existence, as it is that of every healthy organism. But is it necessary to depart from the principles which have heretofore controlled its development? With the lapse of years we have learned how wisely were laid the foundations on which its creators based their work. The object of the Academy has been rather to train than to educate its pupils. It is frequently contended that it should do both, but the founders of the Academy and their very able successors have emphasized the work of training while that of imparting knowledge may be said to have been incidental. This policy has been consistently pursued, often in the face of strong opposition. Incidentally it may be said that this opposition has usually come from educational sources rather than from the service. The necessity in the Army for trained officers rather than for learned ones is as urgent to-day as it ever has been—would it be putting it too strongly to say that it is more urgent now than ever before? Is it wise to make concessions now to the demand for more learning and erudition and for less of the training which is so difficult to impart after the plastic period of youth is passed? The Academy is said to be conservative, and sometimes the quality is implied to it as a reproach. It is conservative, but experience and the results obtained have proved that its conservatism is a wise conservatism which "holds fast unto that which is good." Let us not be too ready to relinquish the path which has been pursued in the past, and which has led us to a point where our hopes for the future are guaranteed by the results achieved in the years gone by.

But it is urged that the increased number of cadets who must be trained in the future will imperil the successful operation of the system which has been pursued heretofore. The Military Academy has already expanded far beyond the proportions of its earlier years, but it is not yet apparent that the institution fails to meet the demands made upon it as successfully as of old. It may be admitted that a time will come when further expansion would result in a deterioration of the work done at the Academy. It would seem, however, that this period has not yet arrived, nor does it seem likely to arrive in the near future. It is admitted that the desirability of increasing the number of graduates, even beyond the number neces-

sary to officer our Army, has often been set forth by eminent authority, but it is doubtful if such views will ever receive very general approval among our countrymen. Ours is a democratic Army. For it to be wholly officered by graduates of the Military Academy would not, perhaps, be altogether desirable. While the method of selecting the officers of the Army who have been appointed from civil life and from the ranks in the past have not always been wisely conceived nor judiciously exercised, we have received from these sources many valuable officers without whose influence the service would have been poorer in achievement and tradition. Their influence has been a beneficial one. The graduate officers have profited by being measured by other standards than those of the Academy, and by knowing that they were so measured; just as the non-graduate officer has profited by the consciousness that he too is measured by another standard than that of his earlier training. I think it will be admitted that more care is exercised now than in the past in the selection of the non-graduate officers, and it seems reasonable to hope that progress will continue in this respect in the future with still more beneficial results to the service and to our country. As now organized, it would seem that the Military Academy will graduate from two-thirds to three-fourths of the officers required for what may be called the combatant branches of the Army. The service has found this proportion measurably sufficient in the past, and perhaps it would be wiser to try to get on with about the same proportion in the future, than to hazard a revolution in our methods of military education by departing from established methods. Our post-graduate military schools will develop with our necessity for more learning and erudition. It would seem that such requirements cannot be met at the Military Academy without sacrificing what appears to many of us to be of more importance to the Army, and that the specialization, which Professor Tillman suggests rather than advocates, might better be deferred until the military student is assigned to the arm of the service with which his future lot is to be cast. Then, with his capacities trained and the foundation of his military character laid, he will be ready to proceed with the acquisition for which the Military Academy so well prepares him.

WASHINGTON, May 17, 1904.

Brigadier General John P. Story, Chief of Artillery, U. S. A.

I have read with much interest the advance sheets of Prof. Tillman's paper entitled "Is there Necessity for a Second West Point?"

He states that West Point does not now, and assumes it will not in the future, unless it be greatly enlarged, furnish enough graduates to supply our army with officers.

Is the assumption that the Military Academy will not supply sufficient graduates for the need of our army a correct one, so far as the near future is concerned?

The compulsory retirements for age in the army, as appears from an examination of a retirement list, excluding only the medical department and the chaplains, are annually as follows:

1904 (After July 1)	7	1909	20	1904	28
1905	14	1910	22	1915	25
1906	21	1911	23	1916	31
1907	37	1912	18	1917	34
1908	30	1913	27	1918	46

These numbers will be much diminished as years go on, by casualties.

There are now in the army about 225 vacancies in the grade of second lieutenant. The graduating class of West Point this year, the appointments from the ranks and from civil life, will leave between 50 and 55 vacancies. If these are all reserved for the graduating class of next year, that class, which it is understood has about 100 members, will probably leave, with the casualties to occur in the coming year, but few if any vacancies for appointments from the ranks. Assuming the average graduating class from West Point will hereafter be from 80 to 100 members, it is quite evident that from 1905 to 1925 West Point with its present capacity, as will appear later, can furnish all officers required for our army unless there be some increase in officers not now anticipated.

The number of officers in our army remained from 1870 until 1898 substantially the same, which means that the retirements for age will continue substantially the same for a number of years to come, until 1925. After the Civil War promotion in the lower grades of the army was practically blocked, due to the large increase in 1867, until our war with Spain in 1898.

The appointments in the line of the army from April, 1898, until October, 1901—three and one-half years—compose 50 per cent. of the line officers of the army. This increase of the army has developed a "hump" to delay promotion, which since the oldest appointee was forty, in 1901, will not begin to disappear until 1925, and since the youngest appointee was twenty-one will not entirely disappear until 1944.

Unless the army be increased, in the number of officers, West Point will, in my opinion, furnish all that will be required until 1925.

In other words, unless there should be a substantial increase in the number of officers of the army, there will be no necessity for a Second West Point prior to 1921. After that date there will be a necessity for an enlarged West Point, or a Second West Point.

If it become necessary to educate more cadets for officers than can be furnished by the present Military Academy, it is my judgment that the best results could be obtained by sending all cadets to West Point for two years. At the end of this school period the relative standing of the individual members of a class is fairly determined. At this time I would divide the class, retaining at West Point the cadets of highest standing and sufficient in number for the probable needs of the Engineers and of the Artillery. All the others should go to some new school to be established, and have a two years course of instruction specially adapted for the needs of cavalry or infantry officers. My first service was in the infantry and I have always thought that my last two years at West Point might have been devoted to a more useful course of instruction in qualifying me for the infantry than the studies I pursued.

The essential difference in my scheme from that proposed by Professor Tillman is that I would make the division at the end of the Third Class year at West Point, and not have two separate schools from the beginning. I think my plan would preserve the West Point traditions better and secure a greater *esprit de corps* than would separate schools.

Colonel Edgar W. Bass, U. S. A., retired.

I think that Professor Tillman's plan, to separate the two classes of military students, is the best remedy for the difficulty, which is rapidly increasing. Otherwise, I believe that West Point will soon become a mere preparatory school for special service institutions.

"Courage."

J. P. F.

After reading the editorial on "Courage" in the *Cosmopolitan* for June, current year, I am more than ever convinced that no two men are quite alike about it, and am confirmed in an opinion long entertained that the quality of courage is as little understood as the passion of love.

In the one case and in the other, I think it is "holding out" which is the highest test—enduring to the end.

Walker has done good service and will have given hundreds of thousands food for most edifying and instructive thought. Some kind of fear a man must have to keep himself alive—just as pain is given to protect us. The problem is to control in the one case and in the other.

A man's courage cannot be gauged by one act, or by two or three. It must be judged by the whole. "It is not a year or two shows a man."

To go down to the very bottom: I do not doubt that which a man has eaten (or has not been eating, if you will) often makes a difference in what he does or leaves undone.

"Life's" lion-tamer appears, as Walker presents him, to be a man thoroughly brave, as the term goes, and perhaps (if *she* is not a modern day saint) he might twist his wife in two at the waist, so that his cowardice in this case is of the moral order. "Life," indeed, does good service at times, for he has before instructed us, given us fairly to understand that "the fear of death" and "the fear of being thought a coward" make all the difference in a man; and, furthermore, on the best possible authority, we are assured that the courage has not been denied a man or woman to stand up and be shot at, while in the same lines we read that "ragged losels, when dressed up in red and trained a little, will not fail to receive fire cheerfully for the sum of one shilling per diem, and have their souls blown out of them with perfect propriety."

The old sergeant of Mexican War fame understood this matter perfectly, if others do not. He it was who asked his captain to let him have the recruits to himself for a few days before they were placed in the ranks. "And why?" "Because," the sergeant replied, "I want to put th' faire of th' Almighty God into their sowls."

To discipline them, of course—to imbue them with *the sense of duty*.

Why is it, I may ask, that so little nowadays attaches to that word *duty*? Does its appearance belittle the other and more popular term, *courage*? Must the captain leave the bridge of his ship, when his responsibility for the whole is determined and the safety of the whole is guaranteed, to run his head into a powder barrel for the good of a part, to make sure that *the people* shall not mistake him for a coward. Great heavens! haven't all the captains and all the generals ascended the ladder of fame step by step, chalking as they go, the words duty and honor and courage on every round? If you would have more, here it is, fresh from a morning's journal:

"Captain Stehmman, commander of the *Bogatyr*, objected on the ground that it would be dangerous to navigate the ship in the prevailing thick fog. The admiral repeated the order, declaring that if necessary he would take out the *Bogatyr* himself. Captain Stehmman retorted that his conscience forbade him to risk his ship in the prevailing conditions. He said he would rather abandon the command.

"Admiral Jessen thereupon took command of the *Bogatyr*. Shortly afterward she struck a rock. Admiral Jessen will be court-martialed."

Will this develop a new controversy abroad, and along the lines of the exhibits we have had in our own "Vanity Fair"?

One exhibition is one thing and the other the other.

Charles XII—Nelson—each as fearless as the other, but see the different conduct of the men and the different results they brought about.

Nelson's Trafalgar was Charles XII's Poltava. And so on *ad nauseam usque*.

The different kinds of courage shown by Jap and Russ open an enormous field of most interesting discussion, and yet it would be a useless task to try to shake the convictions of those who already believe that one is braver than the other. But my imagination sinks aghast before what might be said, and my ink is running low, and this even before the pith and marrow of the thing is reached.

Surely Walker is right where he says that "a man of courage will consider a fact upon its merits" and that "he will investigate."

But we must use a word of caution here. Courage must not be spelled with the wrong letters of the alphabet, and neither tyranny, obstinacy, nor *lack of tact* should mark the progress of courageous men, lest we mistake them for the very lion tamer himself.

"The War in the East."

The Editor.

The Russo-Japanese conflict continues to afford the war correspondents and experts with food for speculation and much newspaper comment. Thus London carries its partisanship to the verge of hostility in discussing Russian operations, while Paris treats both belligerents fairly, although leaning toward its ally.

* * *

Since the last number of THE JOURNAL came from the press two notable events have transpired: The crossing of the Yalu by the Japanese and the capture of Kin-chow. The first, not unexpected by the military world, was given the importance of a general engagement by what seems to have been unpremeditated obstinacy of resistance by the Russians—probably due to the bull-dog temperament of the general in immediate command, and his failure to understand his chief's intentions. General Kuroki gained a great physical and moral advantage, but not without considerable loss in killed and wounded, of which we have as yet no accurate estimate.

* * *

The affair at Kin-chow was a better test of the relative fighting qualities of the opposing forces. The defense occupied an admirably chosen position, strong by nature, rendered almost impregnable by art, with the approaches covered by artillery, supported by well-seasoned troops under a veteran artillerist. Their enemy, although superior in numbers, were, as the result showed, none too strong for the task before them. Attacking with their usual vigor, after a

sharp artillery duel, the Japanese swarmed up the rocky sides and front of the Russian position, assault following assault, only to fail with heavy loss to the assailants. Finally, availing itself of a vulnerable spot in the Russian works, aided by a severe flanking fire from its gunboats and with the literal annihilation of the leading body of troops, the Japanese army stormed Nanshan Hill and drove the Russians back, taking many guns and some prisoners. The Russians admit more than 800 killed and wounded; the Japanese are more reticent, although a reasonable estimate under the circumstances would approximate 4000 casualties.

* * *

One of the remarkable features of this war, so far, is the almost fanatical fearlessness with which the Japanese soldier attacks a fortified position, a characteristic which will probably cause a new paragraph, at least, to be added to future works on minor tactics.

* * *

Hereafter those who have deemed the *arme blanche* obsolete, fit only for the museum, may modify their views. The lessons gleaned from Kiu-lien-cheng and Kin-chow may not justify a radical change in tactics or armament, but may excuse reluctance to discard the saber because the rifle has become an essential part of the cavalryman's outfit, or to look upon the bayonet rather as a cleaning rod or entrenching tool than as the sole defense of the infantryman at close quarters or instrument to turn the tide of battle.

* * *

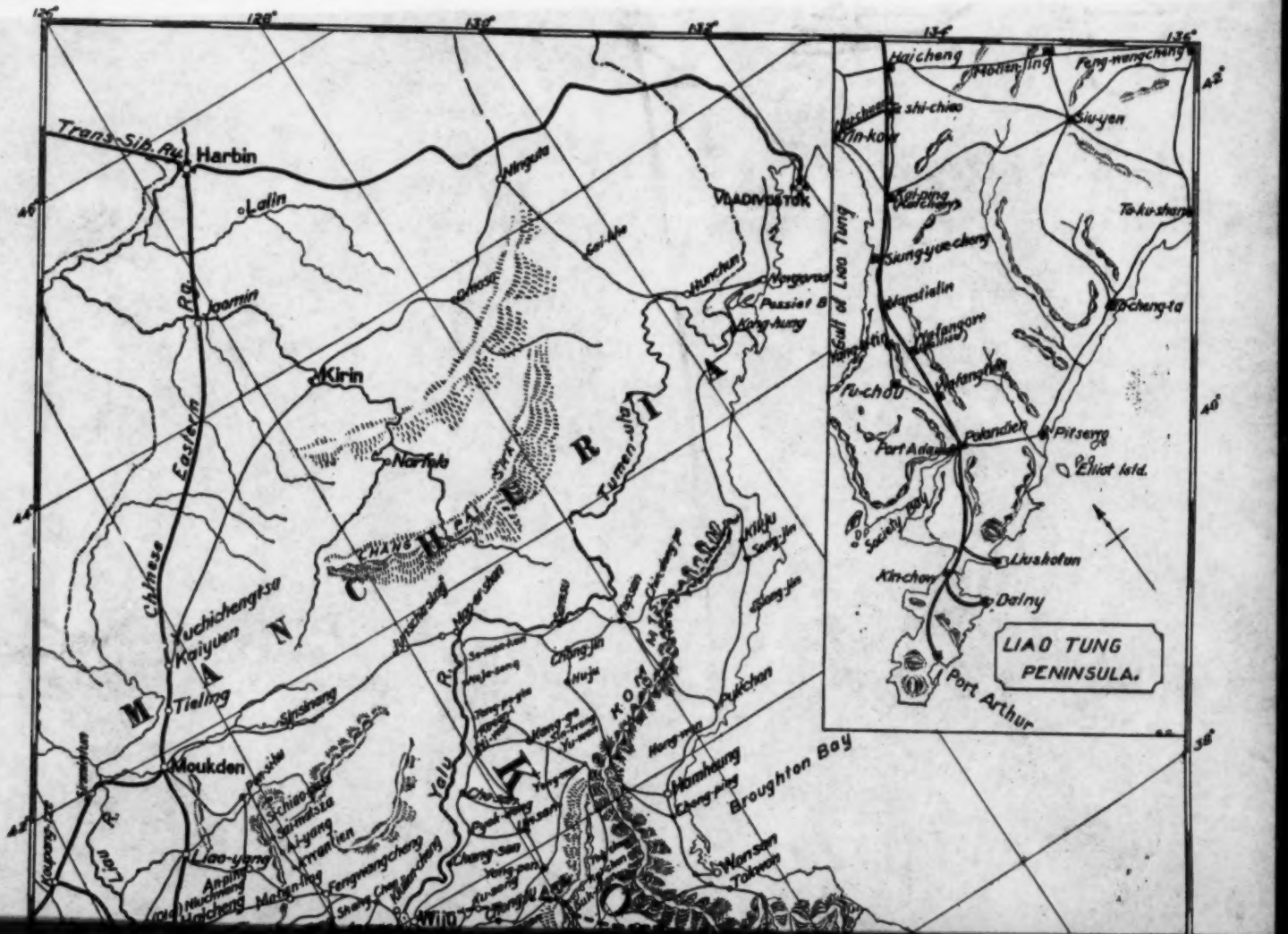
The service of "Security and Information"—so far as we can learn—appears to be performed with more or less precision on both sides; rather better, perhaps, by the Russians, whose Cossacks are born scouts and whose greater mobility enables them to thoroughly screen their main body and to keep constant touch with the enemy. The Japanese perform this duty by means of small, mixed brigades of the three arms; but at best such a force is but a poor substitute for a mounted force, the value of which will probably be illustrated on a large scale during the coming summer in Korea.

* * *

The wonderful success with which both armies have "regulated" and controlled the transmission of unofficial news from "the front" has doubtless impressed the civilized world, and the example is likely to be followed in future wars—even by republican armies.

* * *

In the use of their artillery the Japanese have followed the best modern teaching, especially in rapidity and concentration of fire as a preparation for a general infantry attack. In this connection the articles on the field artillery of both armies reprinted in this number of THE JOURNAL will be found interesting.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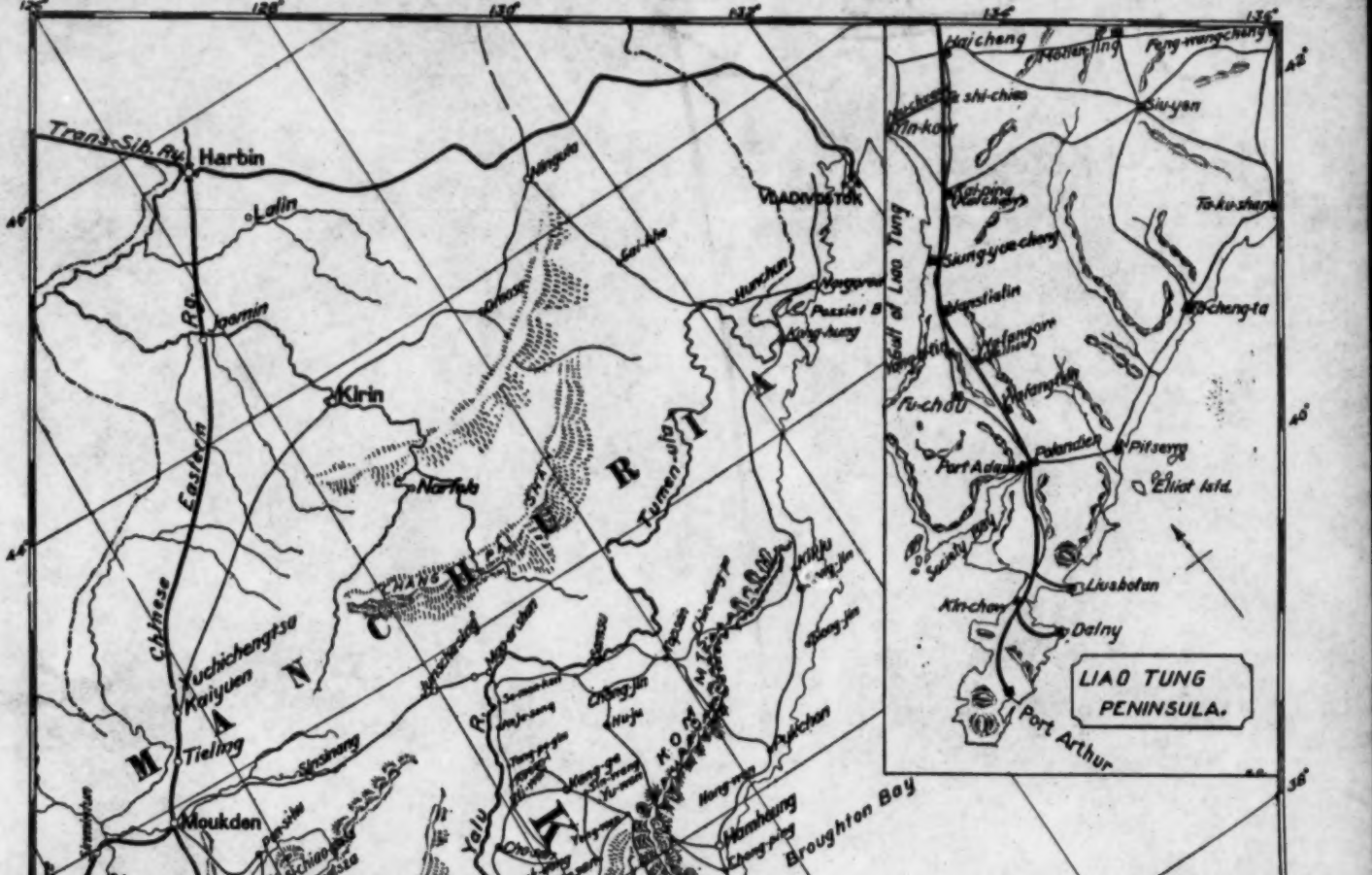
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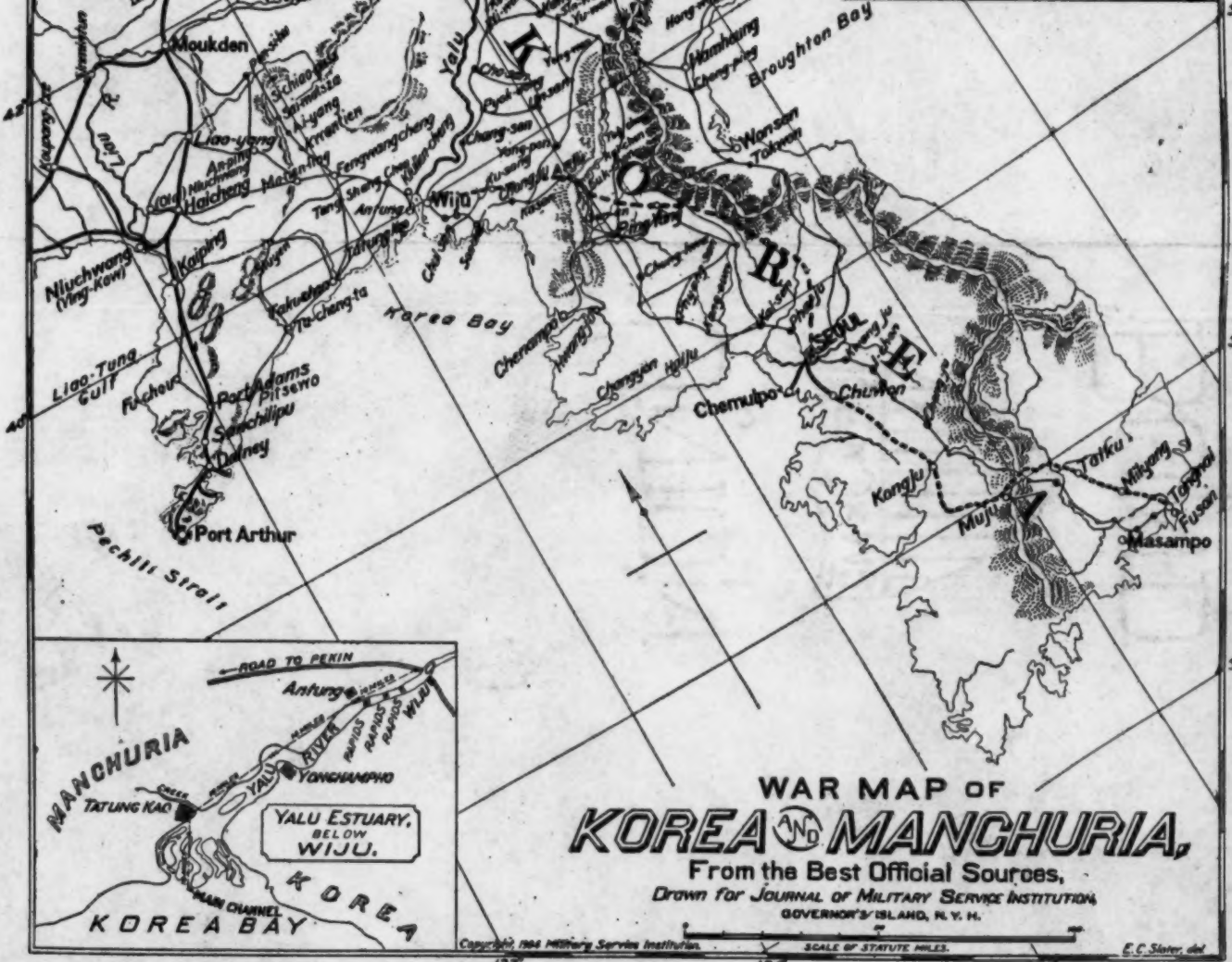


WAR MAP OF KOREA AND MANCHURIA,

From the Best Official Sources,

Drawn for Journal of Military Service Institution

GOVERNOR'S ISLAND, N. Y. H.

SCALE OF STATUTE MILES.

Copyright 1904 Military Service Institution.

E. C. Slater, del.

Reviews and Exchanges.

Greater America.*

TO write a treatise upon the political, social and economic future of a great people at a period of phenomenal development and political transition is on its face a risky undertaking, but one necessarily alluring to the philosophic mind. To our racial forebears in the "Tight Little Isle" the temptation to deliver minor essays upon American themes has ever proved irresistibly attractive, both in book and periodical form. Sydney Smith reviewed in 1824 in the Edinborough Review three books upon America; and both the Scotch and English reviews of that time published frequent theses, generally caustic, upon all phases of American life. Smith is genial and generous in his comments and treats with amused disdain the insular narrowness of English views. After admitting his fears that some Americans spit upon the floor and that "all claims to civilization are suspended till this secretion is otherwise disposed of," he observes, "No English gentleman has spit upon the floor since the Heptarchy."

The period when we were an aboriginal study of remote and languid interest to the European mind has given place to an era of deep concern in the affairs and tendencies of the American prodigy—the *enfant terrible* among world powers.

Two memorable books have taken the *pas* in the bibliography of this literature—those of de Tocqueville and Bryce—both of them earnest, philosophic and impartial, and covering the earlier and later periods of our history. Mr. Colquhoun in "Greater America" has added a third to the notable studies of our phenomena, which undertakes to review the immediate present and to offer what may be called conservative suggestions bearing upon a forecast of our future. His book is not at all, as were those of his predecessors, a general examination of and dissertation upon American institutions and economics, but a review of America's present status in *Weltpolitik* and of the new problems she has undertaken to solve, together with incidental allusion to our sinister racial questions in the negro and the difficulties of assimilation attending foreign immigration.

The book is both a diagnosis and prognosis of political conditions,

**Greater America.* By Archibald R. Colquhoun. New York, Harper & Bros., 1904.

written in a minor key of misgiving as to the outcome of our evolution in the new field of expansion. The diagnosis is, in the main, sound and fair, although unsparing and occasionally depressing, and shows a very clear and sensible comprehension of conditions and operations in the West Indies and the Philippines. It is written in a friendly and sympathetic spirit, with an evident endeavor to avoid insularity and a full appreciation of the overmastering destiny of the great republic in world development. The prognosis is, however, in the main, pessimistic, and nearly every topic closes with a disheartening inference that the prospect is rather dismal and complicated with "buts" of every degree of obstructiveness. His prophetic view is disturbed by a complexity of doubts as to the promise of any one of many suggested or proposed solutions. His mind is not sanguine in forecasting, and suggests a disposition to hedge by anticipating all conceivable contingencies of disaster or failure.

In his diagnosis of the American genius he finds the most alarming symptoms indicated in our treatment of race problems involving the negro and our enormous foreign immigration. He fails to find that the early stock of sturdy Anglo-Saxon blood is a dominating force in our social problems, "which chiefly center around the worship of the golden calf." Unrestricted immigration from Southern and Eastern Europe will effect "an undesirable modification of national character. * * * Modern America has become the home of mediocrity—she produces talent, but not genius * * * Politics have become a trade, and not an honest trade * * * A low moral (in politics) has been allowed to establish itself—this is not the standard of Washington and Lincoln. It owes its inspiration to the gutters of Europe." He finds the spirit of American life chameleon-like and impossible to fix. If we have a national soul "it is smothered from sight by the excrescences of an evanescent modernity.

We are "essentially colonial" and have built up our political growth by a continual colonization from East to West—"it is as a colonizing power that she (America) has attained her present proportions and position as a great world power." We are therefore expansionists by natural evolution. He deprecates our treatment of the negro, but offers rather vague generalizations as a substitute. "Treat the negro as a subject race, but remember that a subject race has rights." In education our tendency is too materialistic—"a sacrifice of the more subtle forms of character development." He quotes a Japanese student as to the deteriorating effect of mechanical efficiency upon the real happiness of the people, and concludes that the most serious question the American people face is "the relations between capital and labor." But why, we may ask, "the American people"? This, surely, is also a European problem of no less magnitude and imminence. Further development of the Trusts will be "against the interests of democracy, and will widen the gap between capital and labor." He notes the baleful effects of a transitory political incumbency in the personnel of office due to the spoils system, especially in the operation upon our Indian wards, and arraigns our sinister dealings with the red man as did de Tocqueville before him.

In our rôle of benevolent expansion he regards our most important work, both in Cuba and the Philippines, as that concerned with education, and thinks our impulses "generous but expensive." In the Philippines we have committed the fatal mistake (with Orientals)

of being in a hurry, and in our ill-considered zeal have rushed in an army of American school marms and masters wholly ignorant of, and out of sympathy with the racial qualities and traditions of their scholars. We suffer from the "democratic craze" and lack patience to lay stable foundations for our occidentalism.

As to the Panama Canal, he assumes that in American eyes its supreme importance is strategic. He gives an analysis of its value to Great Britain from the same standpoint, and argues that the canal will effect a *rapprochement* between the two nations tending to the consolidation of an Anglo-Saxon supremacy.

Pan-Americanism, so far as regards Canada, he believes will never be more than a *façon de parler* unless Canada detaches herself from the Empire—an eventuality he does not seem to regar das probable, since Canada's best interests lie in the union. He analyzes briefly our methods of government of greater America and regards them as demonstrating our "essentially imperial character." His conclusions are best expressed in his own words: "Democracy is equally opposed to a system of patronage, yet the spoils system is the cornerstone of governmental power in the United States. Democracy is equally opposed to any form of colonial government, yet her expansion, which has been no spasmodic effort, but a genuine and logical growth, has placed the United States in a position where such a form of government is imperative."

But the limits of this brief review do not permit further quotation. It must suffice to call attention to an interesting chapter upon the present conflict in Manchuria, entitled "Asia in Transformation" which he concludes by stating, "The practical question for the Anglo-Saxon nations is whether they can afford to look on while this important act in the drama of 'Asia Transformed' is played without reference to their own interests or sentiments."

On the whole, Mr. Colquhoun's book, while not profoundly philosophic in its analysis, nor academic in treatment, is the work of an active, sympathetic intelligence speculating upon contemporary affairs with candor, and in a spirit which is strongly infused with that modernity which he so clearly discerns as an American attribute.

WEST POINT, N. Y., June 6, 1904. C. W. L.

Strategy.*

WE think there will not be and we know there should not be a single dissenting voice in the whole United States Army to the following statement, viz.: 'that no officer (nor any dozen officers for that matter) has done as much as the author has in both word and deed, in book and on the maneuver field, to encourage study, research, and efficiency in our army.

The high standard attained by him in his former publications is fully maintained in this lecture on Strategy delivered "to the officers of the Regular Army and National Guard at the Maneuvers at West Point, Kentucky, and at Fort Riley, Kansas, 1903.' His avowed purpose was to present well-known facts in a new grouping,

* *Strategy.*—A lecture by Colonel Arthur L. Wagner, Assist. Adj. Gen., U. S. A., Kansas City. Hudson Kimberly Pub. Co., 1904.

so as to bring out in strong relief, principles with which his hearers were already familiar.

It was rather a difficult task to endeavor to epitomize so large a subject within so small a compass and at the same time produce a lecture which might be instructive to some of the militiamen and entertaining to some of the regular officers who were highly accomplished in all that pertains to a knowledge of strategy; but the author succeeded most admirably.

Never have we seen a difficult subject more concisely, clearly, and charmingly presented. Every paragraph is a gem and is so carefully constructed that the student by his own study and research can easily expand each paragraph into a chapter and the lecture into a book, likewise each paragraph can be compressed into a sentence and the lecture into a series of sentences ready for instant use.

After defining strategy, and showing the difference between it and tactics, he discusses the two simple propositions that are the underlying principles of all strategy, and these are, "that the soldier like every other human being needs food, clothing, and medicine; that in addition to these common wants of mankind he needs an unfailing supply of ammunition; and that, all other things equal, two or three men are able to whip one."

These two principles lead him naturally to bases of operations, and lines of operations and supply, and he convincingly shows that strategy really resolves itself into a consideration of the supply of armies, using as illustrations the army under Buell, later under Rosecrans, and finally under Sherman, in the successive strategic changes of base from Louisville to Nashville, Chattanooga, Atlanta, Savannah and Kinston.

He then proceeds to elucidate the two main portions of his definition, that all strategic combinations are designed to increase either the probability of victory or to increase its consequences. Under the former he gives numerous instances of the successful use of interior lines, and under the latter he briefly tells the strategy of Napoleon's campaign of Marengo.

His next and last point is the influence of railroads, the telegraph, and the Press, in *changing* the principles of strategy. As to the Press, we confess to a feeling of admiration for the remarkably cool, efficient, and polite manner in which both Russia and Japan are managing the subject of the press correspondents with armies in the field. During this conflict, at least, there has been very little leakage of real news that could have been of service to either side strategically. What a lesson we could learn from this and how we would hesitate to put it into practice!

As to railroads and the telegraph, they are the annihilators of time and space; in war, space reduces itself to time, so that these two great inventions have saved inestimable time, therefore are we inclined to believe with the author in his two concise, deductive statements, "that we owe the preservation of the Union to the invention of the locomotive" and "that if Napoleon had had railroads and telegraphs at his command, even his Russian campaign would have been a success, and St. Helena would be known to-day merely as an unimportant speck on the map of the Atlantic Ocean."

P. E

Military Hygiene.*

A THIRD edition of this well-known little book has just been published. Originally prepared for the convenience of student officers at Fort Leavenworth, its usefulness was so quickly appreciated that a revised edition, better adapted to the needs of line officers, was issued in 1898. The present edition embodies the results of our own most valuable experiences in, and since the Spanish War, as well as the remarkable advances of the science of hygiene in other fields.

The supreme importance of hygiene, in garrison and camp, is beginning to be recognized; to keep his men healthy and able-bodied is the first problem that confronts a commanding general in the field, and everything else is subordinated to it. The former widespread belief that disease, in camps, was inevitable and, like the killed and wounded, a necessary tribute to the demon of war, is now giving place to the growing conviction that it is mostly preventable, by the observance of well known hygienic laws, and that, in future wars between civilized nations, we should no longer witness the usual sad spectacle of two or three soldiers dying ingloriously from disease for each one killed by the enemy.

There is a very natural and commendable desire on the part of officers to acquire a clear and practical knowledge of the principles of hygiene. Courses of lectures are now given on the subject at all our military schools of application, as well as at the Military Academy, and a suitable text-book for their use has long been a desideratum. The work under consideration is not yet perfect for the purpose, but it is the best available. Within 225 pages it covers the whole field of military hygiene from the practical point of view, giving the result of much personal experience, and is a judicious and learned guide and teacher. The chapter on "The care of troops in the field" is a masterly summing up of all that line officers should know on the subject. Likewise very useful and original, the "Scheme for sanitary inspection by company officers." The compression of so much matter within a small compass is no easy task, but has been successfully done by the use of a direct, precise and concise style. Such condensation, however, makes it almost impossible to avoid, sometimes, a certain degree of rigidity and obscurity, an insufficient demonstration of important points; it is the defect of the quality of the book. The author deserves our sincere congratulations for the preparation of an excellent and much-needed little manual, one which will doubtless largely contribute to the prevention of disease in our armies and, thereby, to their greater efficiency.

V. HAVARD.

Mainly about Shooting.†

THOUGH this unpretentious little book of seventy pages was written to be sold to the British volunteers at 1s. 6d., there is much in its four interesting lectures of practical value to all. While opinions may differ as to what is of first importance, the author well emphasizes such points as the necessity of care and training with the rifle. Not only does he lay to neg-

* *Notes on Military Hygiene.*—By Col. A. A. Woodhull, Medical Department, U. S. Army. New York, John Wiley Co., 1904.

† *Mainly about Shooting.* By Capt. R. P. Legge. London, Gale & Polden. 1904.

lected rifles rust and dirt, but inability to hit the mark as well. It is practise alone that makes the habit of good shooting. Then alone in critical times does the rifle become a friend in need, and by his skill with the rifle is the expert repaid a thousand fold, if the sport of shooting and the physical benefit has not already repaid him for his time and trouble. The author well feels that it is not only every soldier's duty to increase in every possible way his knowledge of the rifle but also to pass along that knowledge to others. The lectures, however, are not of equal value. The best is that relating to the causes of poor shooting, a dozen errors of poor holding, sighting and pulling being tabulated and explained. Indeed the most valuable features of the book are the reasons given for all of its rules, thus ensuring intelligent instruction and obedience. In this list of errors, however, undue stress is probably laid on weather conditions at the expense of errors of personal equation or poor ammunition. Those due to overheated barrel, as well as the injunction to clean after every ten rounds, would show that cordite has its disadvantages. The information given of the Lebel, Mauser, Mannlicher, Krag and other makes is excellent. This information about the rifles of possible allies or enemies, if condensed by a comparison with the Lee Enfield as standard would have perhaps "stuck" better.

Such an elementary work might well have insisted that nomenclature, care of arms, as well as the mechanism and theory could best be taught not by prints and definitions, but by actual handling the parts of the piece. Then there would have been room left for discussing its power, accuracy, and casualties.

The chapter on fire discipline, with its realistic description of the melée is complicated unnecessarily by the sharp distinction made between discipline and fire discipline, asserting that the latter comes into play first in the melée, and forgetting that then both fire control and fire discipline become merged in the individual soldier.

Besides all the old ways of judging distance, a new one is given based on a man's fit in the bore on looking at him through the barrel. Once is 300, twice 550, and three times, 800 yds. Were this method not so rough as to be of little or no value, it could be developed by open muzzle and sight covers with wires.

The seven rules to prevent accidents seem complex and no improvement over the old standbys. To require all men not firing to keep 20 yards in rear would do away with the advantage of observing the coaching and firing. Good form in shooting, as in golf, is easily imitated.

The vertical drop (4½ft.), caused by fixing bayonets, on the Lee Enfield sight at 500 yards is nearly double that caused by changing from coarse to fine sights (2½ft.) at that range. With the large front sight of our own rifle coarse instead of fine sighting would probably more than counteract any drop due to fixing bayonets. At any rate it is hardly a matter of any practical concern. The author's practise of ending up each chapter with a short yarn, illustrative of some principle, is an excellent one, even if the yarn is not authentic.

A comparison of the new English rifle known as the short magazine Enfield converted Mark 2 C with our new Springfield, is interesting as showing how similar the changes in the new types have been, both adopting the clip and magazine of 10 cartridges and shortening the barrel, the new English barrel being (25⅛ inches), almost an inch shorter than our new model. In reducing the weight to only

a couple of ounces over eight pounds, the English have gone so far as to hollow out the butt with longitudinal holes. The issue of the rifles with butts of three different sizes so as to make them fit all men seems an excellent idea, and would suggest that expert shots be also allowed to lighten up the trigger pull (5 to 6 lbs.) of their rifle. The English authorities are still doubtful apparently of the efficacy of the cut off, as the new model is made with a slot so that if needed, it may be fitted later. The Japanese should be able to testify to the value of their cut off of the Russians around Port Arthur. The greatest advantage of the new model Lee Enfield is said to be in its wind-gauged sight, proving that our victory at Bisley last year was taken to heart. May it not be that after the next contest their new sight will be again modified to include the peep as well as the open sight? T. H. L.

An Army Nurse in Two Wars.*

THE composition of the book is the usual result of the work of a large publishing house. The type is clear, the lines are distinct, and there is a pleasant margin. The book is without illustrations other than the portrait.

The portrait of Mary von Olnhausen, which forms the frontispiece of this volume, is that of a woman of large views and decision of character, moderated by kindness, and possessing a tremendous amount of mental and physical energy. There is firmness and yet kindness in the oral expression which suggests the treatment of adults with sternness and of children with kindness. From the portrait one would judge that Mrs. von Olnhausen possessed all the characteristics necessary for a successful nurse, combining with resolution and sternness, a motherly sympathy and tenderness which would tone down the more positive qualities, and attach her affectionately to those with whom she came in contact.

From the title of the book one might assume that some valuable information concerning these two wars—the Civil War of the United States and the Franco-Prussian War—might be given by a woman who was constantly in the field and who had an opportunity of viewing the results of the wars from the rear camps, but in this the reader is disappointed, for nothing of the kind can be gleaned from the work, not even in the Civil War about which she was evidently better informed than the Franco-German War. As a matter of fact, the war forms the dim background of the stage setting, and the strong limelight is thrown entirely on the center of the stage where stands the Baroness von Olnhausen, with crisp, terse, and cutting criticism regarding the ability of the surgeons under whom she worked, their methods of operation, and the general miserable executive conduction of our military hospitals. There is less to say for the literary value of the book than for the facts which it contains. The rhetoric is so simple that it defies criticism. The forms of expression are those of a woman unaccustomed to writing, and some of them we are surprised to find in a work which has been edited evidently by a relative. When one reads a collection of

* *Adventures of an Army Nurse in Two Wars*, edited from the Diary and correspondence of Mary Phinney, Baroness von Olnhausen. By James Finney Monroe. Boston: Little, Brown & Co., 1903.

letters that have been edited, one expects at least to find the form of expression preserved so that the identity of the author may not be lost, nor need the individuality of the correspondent suffer from the inevitable omission of certain passages. In fact, it is the faculty of judicious omission which characterizes the editing of correspondence as clever or commonplace. In ordinary correspondence, one expects to interject expressions which have no permanent value, but if letters are edited posthumously such phrases should be eradicated. It is sufficient to say that it does not leave a pleasant impression when one reads in a book of this kind such expressions as: "I went into the wards this morning and became immediately as mad as a pig." . . . . "To-day I am having a grand row with the '*nigs*,'" . . . . "They act so stupid." . . . . . "I bet I felt proud."

As a nurse, Mary Phinney seems to have been very valuable. With her indefatigable energy, her love of command, she dominated the wards of the hospitals under her charge, and from the affidavits of the attending surgeons did splendid work. She was enthusiastic about her cases and deeply interested in her work. She was a good wound dresser, and was highly complimented for her skill by Dr. Palmer and his corps of surgeons.

Conditions in the hospitals were not very good. It is interesting to read what she says about her surgical dressings, and through it all there is a note of kindness and sympathy, which cannot fail to touch the reader. On page 175 she tells about material for surgical dressings which came to her and which to-day would never be used in a hospital ward: "I want to tell you of the arrival of the box which came last night, much to my joy and the comfort of my patients. Rags had become so scarce that I was picking up the bits blowing about the land. I never was in such straits before. The sanitary department had not even one of their old bandages to spare me. No delicacies ever looked so good to me as those rags."

A tribute to her work is included in a letter addressed to her brother-in-law by the Chief of Medical Staff, Major George Palmer. He states: "Her whole soul has been in the work. She very early acquired a marvellous dexterity in the management of the wounded; thus with her wonderful physical endurance she was able to do more good than any nurse I ever knew. She was literally untiring in her labors. By her zeal and usefulness and general deportment she entitled herself to the respect of all."

She received from the United States Government a pension of $12 per month, and spent her last days of usefulness at the Massachusetts General Hospital in Boston, as Superintendent of Nurses.

In recognition of her services in the Franco-Prussian War she received the Iron Cross and afterwards the silver War Medal for non-combatants. Still later, after her return to America, she received the decoration of the Cross of Merit. B. D.

THE HILL OF TARIK IN AMERICA.

By Herbert S. Houston.

With Photographic Illustrations by Arthur Hewitt.

From Madeira the ship's course was straight for the Mediterranean. Among those on board, bound for the Orient, were a New York publisher and a bright boy from the West, eager for all the new sights of the Old World ahead. As the land breezes caught the pennant at the masthead, the boy scanned the eastern horizon and he kept it up for hours.

"What are you looking for so hard?" inquired the publisher.

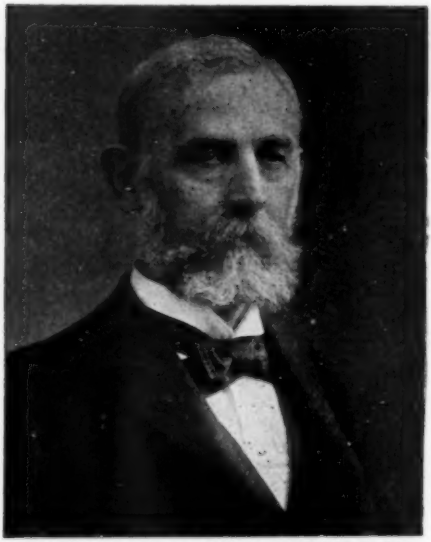
"Oh, I want to see that big sign of the Prudential on Gibraltar," and the boy still peered into the east. When at last the great rock, the hill of Tarik the Saracen, lifted its head above the ocean the boy searched in vain for the sign he was sure he would see. For him, as for all other Americans who read the magazines, the Prudential was inseparably associated with Gibraltar. And this association has made the rock and the insurance company almost interchangeable terms, simply because each suggested strength. But the American Gibraltar achieved its strength in a few years by dauntless human endeavor, while the slow accretions of ages gave strength to its namesake, the mighty hill of Tarik.

Ten years after the close of the Civil War—a period so recent that its history has scarcely been written—the Prudential was established in Newark. As if fore-knowing the great rock to which it would grow, it began its foundation in a basement office. It was like the beginning of the New York *Herald* by Bennett, the elder, in a basement on Ann street. But it would be an idle play with words to make a basement office the real foundation of the Prudential. It was something much deeper down than that—nothing else than the bed-rock American principle of democracy. The Prudential applied the democratic principle to life insurance. As Senator Dryden, of New Jersey, the founder of the company, has said, "Life insurance is of the most value when most widely distributed. The Prudential and the companies like it are cultivating broadly and soundly among the masses the idea of life insurance protection. To them is being carried the gospel of self-help, protection and a higher life."

And what has been the result of the democratic American principle worked out in life insurance? In 1875 the first policy was written in the Prudential. At the end of 1903 there were 5,447,307 policies in force on the books of the company, representing nearly a billion dollars. The assets in 1876 were $2,232, while twenty-seven years later, in 1903, they were more than 30,000 times greater, or $72,712,435.44, the liabilities at the same time being $62,578,410.81. This is a record of growth that is without precedent in insurance and that is hard to match in the whole range of industry.

The rise of the Prudential to greatness reads like a romance in big figures, but, in fact, it is a record of business expansion that has been as natural as the growth of an oak. To say that, in ten years, the company's income grew from something more than $9,000,000 a year to more than $39,000,000 last year is amazing as a general statement, but when made in relation to the broad principles on which that growth has been based, there is no mystery about it; but there is in it, from the day when the principles were planted in Newark until these great harvest days, the genuine American spirit of achievement, strong, hopeful and expansive.

The Prudential Insurance Company of America is a national institution. It was founded to provide insurance for the American people on the broadest possible basis, consistent with strength and safety.



U. S. SENATOR JOHN F. DRYDEN, PRESIDENT OF THE PRUDENTIAL.

Just as Grant and Lee organized their armies or as Kouropatkin and Yamagata plan their campaigns in Asia, so does the Prudential work out its national insurance propaganda. The company's organization is essentially military. It is a wonderful combination of big grasp and outlook with the most painstaking thoroughness and system in details. And, as is always the case in every organization that throbs throughout with intelligent energy, there is a man at the center of it. This man has a constructive imagination lighting up a New England brain. To business prudence there is added the large vision which sweeps the horizon for opportunity. Naturally, to such a vision the application of the democratic idea to insurance was an opportunity of the first magnitude. The Prudential was founded. In the most careful way, its idea was tested, just as the Secretary of Agriculture tests seeds at the Government's experiment farms. Here was where prudence kept the large vision in proper focus. Gradually the idea took root and grew. Year after year the Prudential added to its number of policy holders and all the time the company was working out a more liberal basis for its democratic idea. But each time a more liberal policy was offered, it was fully tested. "Progress with strength" is the way President Dryden describes the company's principle of growth —the results, clearly, of vision and prudence. At the end of ten years of this method of growth, the company reached the point where, it was believed, insurance could be safely offered for any

amount with premiums payable on any plan, either in weekly installments or at longer periods. Within the five years, 1886 to 1890 inclusive, the company's assets increased nearly five-fold, from $1,040,816 to $5,084,895, and the amount of insurance in force from $40,266,445 to $139,163,654.

The Prudential had found itself. The idea of democratic insurance has been fully tested and adjusted to the needs and conditions of the American people, Then, with a boldness which only large vision could have quickened, the plan was formed to make the Prudential's idea known in every section of the country. Gibraltar was chosen as the symbol of the company's strength, and advertising—the telling of the Prudential idea to the people—was begun.

The Prudential publicity is accompanied by wise promotion from a field force of over 12,000, some of whom have been with the company for over a quarter of a century, working in almost every State of the Union. They have the zeal of Crusaders and it is kept at ardent pitch through an organization that could not fail to produce a wonderful esprit de corps.

HOME OFFICES, THE PRUDENTIAL INSURANCE CO., NEWARK, N. J.

There is no place where one feels the greatness of the Prudential quite so much as in the vast granite piles which have been raised for the company's home buildings. They rise above the Jersey meadows as Gibraltar does above the sea, a convincing witness, surely, to the growth and to the strength of the Prudential. But they are not a cold, gray rock, but a living organism throbbing from vital contact with millions of policyholders. There are now four of these great buildings, all occupied by the company.

To-day the Prudential is paying over 300 claims a day, or about forty each working hour. On many policies settlement is made within a few hours by the superintendent of the district; on the large policies a report is sent immediately to the home office and settlement authorized by telegraph. And on over 45 per cent. of the claims more money is paid than the policy calls for. From the beginning the Prudential has followed lines of great liberality, whether in dealing with the family where the policy is kept in the bureau drawer, or with the estate of the millionaire.

It would be interesting to describe the broad activities that

hum in the great buildings at Newark, but they would more than require an entire article themselves. So, too, with the equipment and furnishings of the buildings which, in the way of complete adjustment to their particular work, are probably unequaled in the world. For example, in the actuarial department is a card machine invented by the actuary of the company, which can do all but think. But many of these things, in miniature, will be seen by the thousands who go to the World's Fair at St. Louis. They will find in the Prudential's exhibit in the Palace of Education a fine model of all the buildings, and also the fullest data concerning life insurance that have ever been brought together.

But the last word about the Prudential is not told at any Exposition. It is found in the 5,500,000 policies which form a stupendous exhibit on the value of life insurance in developing thrift, safe investment and home protection in a nation. Of course, such an exhibit could never have been possible if the Prudential had not worked out safe policies that would meet the broad needs of the American people.

The Prudential has been most liberal in its treatment of Army and Navy policyholders. Recently the Company made a thorough investigation, at the suggestion of Manager A. W. McNeil, of the conditions surrounding Army and Navy officers in times of peace and war. It resulted in the Company's abolishing all extra premiums on Army officers' policies, thus practically extending to them the same Life Insurance privileges as enjoyed by civilians. That it was a good move by the Company is indicated by the correspondingly large increase in new insurance written on the lives of Army and Navy men.

Journal of the Military Service Institution 1878 — 1904

Governor's Island N. Y. H.

THE JOURNAL

SEPTEMBER, 1904

OME of the papers approved for publication in the JOURNAL for SEPTEMBER, 1904.

I. "THE WAR IN THE FAR EAST" will furnish material for reprint and comment, with the aid of a Field Map specially prepared and revised, to date, for this Journal.

II. "RELATION OF THE GOVERNMENT TO A PATENT GRANTED ONE IN ITS SERVICE"—by Lieut. James Hamilton, U. S. A.

III. "MILITARY FREE-HAND SKETCHING," and "PANORAMIC SKETCHING IN CAMPAIGN"—with illustrations by the author—Lieut. Louis McL. Hamilton, 14th Infantry.

IV. "A SUGGESTED NATIONAL ORGANIZATION FOR THE MILITIA"—by Mr. C. S. Clark, Military Editor, N. Y. Daily News.

V. "ARMY EPISODES AND ANECDOTES OF LIFE AT VANCOUVER BARRACKS"—II. "Pioneers and Soldiers"—from an unpublished volume, the MS. of which has been contributed by the author, Brigadier General Thomas M. Anderson, U. S. A., and from which selections will appear from time to time in the department of "Historical Miscellany."

THE PUBLICATION COMMITTEE invites contributions of original papers, translations and comments upon current topics. Attention is called to "Gold Medal," "Seaman," "Short Paper" and "Santiago" prizes mentioned elsewhere

The Military Service Institution.

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Publication Committee.

Gen. BARRIGER, Gen. RODENBOUGH and Col. GREER

MEMBERSHIP AND DUES.

Membership dates from the first day of the calendar year in which the "application" is made unless such application is made after October 1st, when the membership dates from the first day of the next calendar year.

Initiation fee and dues for first year $2.50; the same amount annually for five years subsequently. After that two dollars per year. This includes the Journal. Life membership $50.

NOTE.—Checks and Money Orders should be drawn to order of, and addressed to, "The Treasurer Military Service Institution," Governor's Island, New York City. Yearly dues include Journal.

Please advise promptly of changes of address.

Gold Medal—1904.

First Prize—Gold Medal, $100 and Life Membership.

Second Prize—Silver Medal, Honorable Mention and $50.

I.—The following Resolution of Council is published for the information of all concerned:

Resolved, That a Prize of a Gold Medal, together with $100 and a Certificate of Life Membership, be offered annually by THE MILITARY SERVICE INSTITUTION OF THE UNITED STATES for the best essay on a military topic of current interest, the subject to be selected by the Executive Council, and a Silver Medal and $50 to the first honorably mentioned essay. The Prizes will be awarded under the following conditions:

1. Competition to be open to all persons eligible to membership.

2. Each competitor shall send three copies of his essay in a sealed envelope to reach the Secretary *on or before January 1, 1905*. The essay must be strictly anonymous, but the author shall adopt some *nom de plume* and sign the same to the essay, followed by a figure corresponding with the number of pages of MS.; a sealed envelope bearing the *nom de plume* on the outside and enclosing full name and address, should accompany the essay. This envelope to be opened in the presence of the Council after the decision of the Board of Award has been received.

3. The prize shall be awarded upon the recommendation of a Board consisting of three suitable persons chosen by the Executive Council, who will be requested to designate *the essay deemed worthy of the prize;* and also in their order of merit those deserving of honorable mention.

In determining the essay worthy of the prize, the Board will be requested to consider its professional excellence, usefulness and valuable originality, as of the first importance, and its literary merit as of the second importance. Should members of the Board determine that no essay is worthy of the prize, they may designate one or more essays simply as of honorable mention; in either case, they will be requested to designate one essay as first honorable mention. Should the Board deem proper, it may recommend neither prize nor honorable mention. Should it be so desired, the recommendation of individual members will be considered as confidential by the Council.

4. The successful essay shall be published in the Journal of the Institution, and the essays deemed worthy of honorable mention shall be read before the Institution, or published, at the discretion of the Council, which reserves the right to publish any other essay submitted for a prize, omitting marks of competition.

5. Essays must not exceed ten thousand words, or twenty-five pages of the size and style of the JOURNAL (exclusive of tables), nor contain less than five thousand words.

II.—The Subject selected for the Prize Essay of 1904, is

THE EXPERIENCES OF OUR ARMY SINCE THE OUTBREAK OF THE WAR WITH SPAIN: WHAT PRACTICAL USE HAS BEEN MADE OF THEM AND HOW MAY THEY BE FURTHER UTILIZED TO IMPROVE ITS FIGHTING EFFICIENCY.

III.—The Board of Award for 1904, is as follows:

Major General WILLIAM A. KOBBÉ, U. S. Army.
Brig. General THEODORE SCHWAN, U. S. Army.
Colonel CHARLES W. LARNED, Professor, U. S. M. A.

GOVERNOR'S ISLAND, N. Y.,
Jan. 1, 1904.

T. F. RODENBOUGH,
Secretary.

The Seaman Prize.

MAJOR LOUIS L. SEAMAN, M.D., LL.B. (late Surgeon, 1st U. S. Volunteer Engineers), has founded a prize in the MILITARY SERVICE INSTITUTION OF THE UNITED STATES by contributing annually

One hundred dollars in Gold

for the best Essay, subject to be named by himself, and to be approved by the Executive Council.

The subject proposed and adopted for 1904 is:

MILITARY HYGIENE; HOW BEST TO ENFORCE ITS STUDY IN OUR MILITARY AND NAVAL SCHOOLS; AND PROMOTE ITS INTELLIGENT PRACTICE IN OUR ARMY.

Competition is open to all Officers or ex-Officers of the Army, Navy, Marine Corps, Marine Hospital Service, Volunteers or National Guard.

Three copies of the Papers on the subject must be submitted to the Secretary of the Institution, to reach his office not later than Nov. 1, 1904. Each Essay must be limited to 15,000 words, exclusive of statistics.

All other conditions will apply as provided for the Annual (Military Service Institution) Gold Medal Prize.

The Board of Award for 1904, is as follows:

Brig. General GEORGE M. STERNBERG, U. S. Army.
Colonel WILLIAM C. GORGAS, M.D., U. S. Army.
Captain EDWARD L. MUNSON, M.D., U. S. Army.

T. F. RODENBOUGH,
Secretary.

GOVERNOR'S ISLAND, N. Y.,
Jan. 1, 1904.

Prizes for Short Papers.

Extract from the Minutes of a Stated Meeting of the Executive Council of the Military Service Institution of the United States, Major General Brooke, V. P., in the Chair, held at Governor's Island, N. Y. H., March 14, 1902.

* * *

Resolved: That the regulations governing the award of Annual Prizes be and they are amended as follows:

Hancock (Infantry) Prize.

The Hancock Prize: $50, and Certificate of Award; and $25, and Certificate of Award: to be given for the best and second best original essays or papers, the awards to be made under existing regulations for the Gold Medal, excepting that the papers shall contain not less than 2,500 words nor more than 12,000 words, and that but one copy of each paper shall be required from the author; said essays to be critical, descriptive, or suggestive, on subjects directly affecting the Infantry or Foot Service, which have been published in the JOURNAL of the Institution during the twelve months ending March 1 of each year and which have not been contributed in whole or in part to any other association, nor have appeared in print prior to their publication by the Institution, nor have been published in the JOURNAL in any previous year, and excluding essays for which another prize has been awarded. The certificate of award to be signed by the President and Secretary of the Institution and the award to be made upon the recommendation of a committee of three members of the Institution, not members of the Executive Council, two of whom shall be Infantry officers to be appointed, annually, by the President; the award to be made and announced not later than May 1 of each year.

Fry (General) Prize.

The Fry Prize: to be the same as the Hancock Prize and awarded upon the recommendation of a board of three members, not members of the Executive Council, under the same regulations for papers or essays appearing in the JOURNAL during the twelve months ending Sept. 1 of each year, on subjects directly affecting the military service and not otherwise provided for; with the announcement not later than November 1.

Buford (Cavalry) Prize.

The Buford Prize: to be similar to the Hancock Prize, and to be awarded on the recommendation of a board of which two members shall be Cavalry officers, for papers published in the JOURNAL during the twelve months ending May 1 of each year, on subjects directly affecting the Cavalry or Mounted Service; with announcement not later than July 1.

Hunt (Artillery) Prize.

The Hunt Prize: to be similar to the Hancock Prize, and to be awarded on the recommendation of a board of which two members shall be Artillery officers, for papers published in the JOURNAL during the twelve months ending July 1 of each year, on subjects directly affecting the Artillery Service; with announcement not later than September 1.

The Santiago Prize.

THE NATIONAL SOCIETY OF THE ARMY OF SANTIAGO DE CUBA has founded a prize to be known as the "Santiago Prize," by contributing, annually, the sum of

Fifty Dollars

"for the best original article upon matters tending to increase the efficiency of the individual soldier, the squad, company, troop, or battery, published in the Journal of The Military Service Institution of the United States, during the twelve months ending December 1st in each year.

"The award to be made by the Council of the Military Service Institution upon the recommendation of a board of three suitable persons, selected by the President of the National Society of the Army of Santiago de Cuba, who shall report their recommendations on or before January 1st of the following year.

"Conditions to be the same as those prescribed for the Hancock Prize (see notice 'Short Paper Prizes'), Military Service Institution, excepting that the competition shall be limited to officers of the Regular Army or of the National Guard below the grade of major, and that papers shall not be less than 2500, nor more than 5000 words in length."

The names of the gentlemen selected for the Board of 1904 are:

General HAMILTON S. HAWKINS, U. S. A.

Major CHARLES G. STARR, Ass't Adj't Gen., U. S. A.

Major G. CREIGHTON WEBB, Insp.-Gen., U. S. V.

T. F. RODENBOUGH,
Secretary M. S. I.

GOVERNOR'S ISLAND, N. Y.,
March 1, 1904.

Association of Military Surgeons

Enno Sander Prize—1903-1904

The Essayist securing First Place will receive

A GOLD MEDAL

of the value of

One Hundred Dollars

The Essayist securing Second Place will receive

A LIFE MEMBERSHIP

IN THE ASSOCIATION,

of the value of

Fifty Dollars.

Subject of the Competition for 1904:

THE RELATION OF THE MEDICAL DEPARTMENT TO THE HEALTH OF ARMIES.

CONDITIONS OF THE COMPETITION.

1. Competition is open to all persons eligible to Active or Associate Membership in the Association of Military Surgeons of the United States.

2. The prize will be awarded upon the recommendation of a Board of Award selected by the Executive Committee. The Board will determine upon the essay to which the prize shall be awarded, and will also recommend such of the other papers submitted, as it may see fit for honorable mention, the author of the first of which shall receive a life membership in the Association.

3. In fixing the precedence of the essays submitted, the Board will take into consideration—primarily—originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character.

4. Essays will consist of not less than ten thousand, nor more than twelve thousand words, exclusive of tables.

5. Each competitor will send three typewritten copies of his essay in a sealed envelope to the Secretary of the Association, so as to reach that officer *at least one month before the next ensuing annual meeting*, in the present case on or before September 10, 1904.

6. The essay shall contain nothing to indicate the identity of the author. Each one, however, will be authenticated by a nom de plume, a copy of which shall, at the same time as the essay, be transmitted to the Secretary in a sealed envelope together with the author's name, rank and address.

7. The envelope containing the name of the successful competitor will be publicly opened at the next succeeding annual meeting of the Association, and the prize thereupon awarded.

8. The successful essay becomes the property of the Association of Military Surgeons of the United States, and will appear in its publications.

BOARD OF AWARD—1904.

LIEUTENANT-COLONEL JOHN SHAW BILLINGS, U. S. Army;
BREVET BRIGADIER-GENERAL GEORGE RYERSON FOWLER, New York;
SURGEON HENRY GUSTAV BEYER, U. S. Navy.

John Cropper Wise, President. **James Evelyn Pilcher, Secretary,**
Carlisle, Pennsylvania.

NOTICE TO MEMBERS.

Proposed Amendment to the Constitution.

NOTICE TO MEMBERS.—At a meeting of the Executive Council of the Military Service Institution, held April 13, 1904, the following amendment to the Constitution was proposed and is here submitted for the action of the Members of the Institution. In lieu of a more formal ballot each member entitled to vote is urged and requested to note his action on a postal card (or the following blank) thus:

ON AMENDMENT TO ARTICLE V., CONSTITUTION M. S. I.

I vote.....*

(Signature) .....

*"Yes" or "No"

and mail it *on or before July* 10, 1904, to "*The Secretary, M.S.I.*, Governor's Island, N. Y. H.," for the action of a General Meeting to be held on July 13, 1904, at 3 P. M.

PROPOSED AMENDMENT.†

ARTICLE V.—GOVERNMENT.

(To read as follows.)

Sec. 2, *Par.* 2.—The ex-officers of the Regular Army, the officers of the Navy and Marine Corps, who are members, and the officers of the National Guard who are Associate Members of the Military Service Institution, shall each have *two* representatives in the Executive Council: *Provided, that these proportions may be disregarded if, in any case, there should not be officers from all such branches of the Service available;* but no ex-officer of the Regular Army shall be eligible as a representative from or of any staff corps, department or branch of the military service of the United States.

T. F. RODENBOUGH,
Secretary.

† The words in italics are new.

Gold Medallists

and others to whom Prizes have been awarded.

(G. M., Gold Medal; F. H. M., First Hon. Mention; S. H. M., Second Hon. Mention).

1880. *G. M.* **Gibbon, John**; Col. 7th U. S. Infantry, and Bvt. Brig.-Gen'l U. S. A.
F. H. M. **Wood, C. E. S.**; Lieut. 21st U. S. Infantry.
Subject.—" Our Indian Question."

1882. *G. M.* **Lazelle, Henry M.**; Lieut.-Col. 23d U. S. Infantry (now Colonel retired).
F. H. M. **Greene, F. V.**; Capt. Corps of Engs., U. S. A.
Subject.—" The Important Improvements in the Art of War During the Past Twenty Years, and their Probable Effect on Future Military Operations."

1883. *G. M.* **Wagner, Arthur L.**; Lieut. 6th U. S. Inf. (now Col. A. A. G.)
F. H. M. **Michaelis, O. E.**; Captain Ordnance Dept., U. S. A.
Subject.—" The Military Necessities of the United States, and the Best Provisions for Meeting Them."

1884. *G. M.* **Price, Geo. F.**; Captain 5th U. S. Cavalry.
F.H.M. **Dudley, Edgar S.**; Lieut. 2d U. S. Art. (now Lt. Col. J. A. G.)
Subject.—"The Necessity for Closer Relations Between the Army and the People, and the Best Method to Accomplish the Result."

1885. *G. M.* **Woodhull, A. A.**; Bvt. Lieut.-Col., M.D. (now Colonel retired).
F. H. M. **Dodge, R. I.**; Colonel 11th U. S. Infantry.
Subject.—" The Enlisted Soldier."

1886. *G. M.* **Woodruff, Thos. M.**; Lieut. 5th U. S. Infantry.
F. H. M. **Schenck, A. D.**; Lieut. 2d U. S. Artillery (now Major A. C.).
Subject.—" Our Northern Frontier."

1887. *G. M.* **Sharpe, Alfred C.**; Lieut. 22d U. S. Inf. (now Major A. A. G.)
F. H. M. **Sanger, Wm. Cary**; Q. M. 2d Brig. Staff, N. G. S. N. Y. (late Assistant Secretary of War).
Subject.—" Organization and Training of a National Reserve for Military Service."

1889. *G. M.* **Read, G. W.**; Lieut. 5th U. S. Cavalry (now Capt. 9th Cav.).
Subject.—"A Practical Scheme for Training the Regular Army in Field Duties for War."

1891. *G. M.* **Reed, H. A.**; Lieut. 2d U. S. Artillery (now Capt. Art'y Corps).
F. H. M. **Pettit, J. S.**; Capt. 1st U. S. Infantry (now Major I. G. D.)
Subject.—" The Terrain in its Relations to Military Operations."

1892. *G. M.* **Stuart, S. E.**; Lieut. Ordnance Dept., U. S. A.
Subject.—" The Army Organization best Adapted to a Republican Form of Government, which will Ensure an Effective Force."

1893. *G. M.* **Scriven, G. P.**; Captain (now Major) Signal Corps, U. S. A.
F. H. M. **Hamilton, W. R.**; Lieut. 5th U. S. Artillery (now Capt. A.C.).
Subject.—" The Nicaragua Canal in its Military Aspects."

1894. *G. M.* **Ellis, E. A.**; Captain 8th U. S. Cavalry.
F. H. M. **Steele, M. F.**; Lieut. 8th U. S. Cav. (now Capt. 6th Cav.).
Subject.—" Discipline: Its Importance to an Armed Force, and the Best Means of Promoting and Maintaining it in the United States Army."

1895. *G. M.* **Sharpe, H. G.**; Captain (now Colonel) Sub. Dept., U. S. A.
Subject.—" The Art of Supplying Armies in the Field, as Exemplified During the Civil War."

1896. *G. M.* **Pettit, J. S.**; Captain (now Major I. G. D.) 1st U. S. Inf.
F. H. M. **Hill, R. G.**; Lieut. 20th U. S. Infantry.
Subject.—" The Proper Military Instruction for our Officers. The Method to be Employed, its Scope, and Full Development."

1897. *G. M.* **Foote, S. M.**; Lieut. 4th U. S. Artillery (now Capt. Art'y C'ps).
*F. H. M.** **Glassford, W. A.**; Capt. (now Major) Signal Corps, U.S.A.
Subject.—" Based on the Present Conditions, and Past Experiences, How Should our Volunteer Armies be Raised, Organized, Trained, and Mobilized for Future Wars?"

1899. *G. M.* **Britton, Edward E.**; Colonel N. G. N. Y.
*F. H. M.** **Barry, Herbert**; Lieut. (now Capt.) Squad. A., N. G. N. Y.
Subject.—" In What Way Can the National Guard be Modified, so as to Make it an Effective Reserve to the Regular Army in Both War and Peace?"

1900. (No Gold Medal awarded.)
*F. H. M.** **Allen, H. T.**; Capt. 6th U. S. Cav. (now Brig. Gen. P. C.)
Subject.—" The Organization of a Staff Best Adapted for the United States Army."

1901. *G. M.* **Stuart, Edwin R.**; Lieut. Corps of Engineers, U. S. A.
Subject.—" Are Disappearing Guns Essential to the Defense of our Seaports?"

1902. *G. M.* **Stuart, Edwin R.**; Lieut. Corps of Engineers, U. S. A.
F. H. M.† **Mott, T. Bentley**; Captain Artillery Corps, U. S. A.
S. H. M. **Evans, Robert K.**; Major Infantry, A. A. G., U. S. A.
Subject.—"Organization and Functions of a Bureau of Military Intelligence."

1903. *G. M.* **Traub, Peter E.**; Capt. 5th U. S. Cavalry.
F. H. M.† **Jervey, James P.**; Capt. Corps of Engineers, U. S. A.
Subject.—"Esprit de Corps: How it May be Strengthened and Preserved in Our Army, Etc."

The Seaman Prize.

1900. **Munson, E. L.**; Captain Medical Department, U. S. A.
Subject.—" The Ideal Ration for an Army in the Tropics."

1901. **Rhodes, Charles D.**; Captain 6th U. S. Cavalry.
Subject.—" The Utilization of Native Troops in our Foreign Possessions."

1902. No prizes awarded.

1903. **Jervey, James P.**; Capt. Corps of Engineers, U. S. A.
Subject.—"How Best to Promote Rifle Practice Among Our Countrymen, Etc."

Hancock (Infantry) Prize.

1902. (*1st*) **Steele, M. F.**; Captain 6th U. S. Cavalry.
Subject.—" Some Army Defects."
(*2d*) **Lewis, E. M.**; Captain 20th U. S. Infantry.
Subject.—" Discipline."

1903. (*1st*) **Beach, Wm. D.**; Major 10th Cavalry
Subject.—"Trench, Parapet, or the Open."
(*2d*) **Low, T. H.**; Captain U. S. Marine Corps.
Subject.—"Lack of Small Arms Experts, etc."

1904. No prizes awarded.

Buford (Cavalry) Prize.

1902. (*1st*) **Allen, H. T.**; Captain 6th U. S. Cavalry. (B. G. P. C.)
Subject.—" Cavalry Training."
(*2d*) **Reichmann, Carl**; Captain 17th U. S. Infantry.
Subject.—" Campaign, Orange Free State, 1900."

1903. (*1st*) **McClernand, E. J.**; Major Adjt. Gen. Dept.
Subject.—"Cavalry Operations, The Wilderness to James River."
(*2d*) **Steele, M. F.**; Captain 6th Cavalry.
Subject.—"Letters to New Captain of Horse from Old Troop Comdr.

1904. (*1st*) **McClernand, E. J.**; Major General Staff.
Subject.—"Mounted Troops."
(*2d*) **Bush-Brown, Henry K.**
Subject.—"The Horse for Military Purposes and How to Produce Him."

* and Honorarium, $50. † Silver Medal and $50.

Hunt (Artillery) Prize.

1902. (1st) **Chester, James;** Major of Artillery, Retired.
Subject.—"Artillery Organization."
(2d) **Maxim, Hudson.**
Subject.—"Maximite."
1903. (1st) **Lyon, Le Roy S.;** Capt. Artillery Corps.
Subject.—"Coast Joint Maneuvers II."
(2d) **Craighill, William E.;** Capt. Corps of Engineers, U. S. A.
Subject.—"Sea-Coast Forts in North China, Etc."

Fry (General) Prize.

1902. (1st) **Kenan, Owen T.;** late Captain U. S. V.
Subject.—"The American Soldier in the Tropics."
(2d) **Pierce, Palmer E.;** Captain 13th U. S. Infantry.
Subject.—"Squad Formation."
1903. (1st) **Schwan, Theo.;** Brig. General U. S. A.
Subject.—"The Coming General Staff.—Its importance as a Factor in the Military System of the Country.
(2d) **Black, W. M.;** Major Corps of Engineers.
Subject.—"Education and Training of Army Officers."

Received for the Library and Review.

The Louisiana Purchase and the Exploration Early History and Building of the West. By Ripley Hitchcock. Boston, Ginn & Company, 1903.

The New Modern Webster Dictionary of the English Language. Chicago, Laird & Lee, 1903.

Webster's New Standard Dictionary of the English Language. Chicago, Laird & Lee, 1903.

Report upon Survey of Maneuver Grounds at West Point, Ky. August, 1903. By Lieut. N. E. Boeder, Corps of Engineers, 1904.

Report First Battalion of Engineers at the Maneuvers at Fort Riley, Kans., 1903. By Major Smith S. Leach, Corps of Engineers, 1904.

English-Spanish Manual. By Lieut. R. G. Hill, 20th Infantry. Third edition. Revised and enlarged by Major C. G. Morton, 6th Infantry. Kansas City, Mo., Hudson-Kimberly Pub. Co., 1904.

The Battle of Shiloh and the Organizations Engaged. Compiled by Major D. W. Reed. Washington, Gov. Printing Office, 1903.

Notes on Strategy and Military History for Promotion, Examinations, etc. By Captain H. T. Russell, Royal Artillery. London, Gale & Polden, Ltd., 1904.

Military Law Made Easy. By Major S. T. Panning, Royal Munster Fusiliers. London, Gale & Polden, Ltd., 1904.

The Journey of Coronado 1540-1542. Translated and edited by George Parker Winship, with map. New York, A. S. Barnes & Co, 1904.

The First New York (Lincoln) Cavalry, from April 19, 1861, to July 7, 1865. By Wm. H. Beach, A.M. New York, Lincoln Cavalry Association, 1902.

Field Fortification. Notes on the Text-Books. By Major Gen. H. D. Hutchinson, C. S. L. London Gale & Polden, Ltd., 1904.

Shooting Scoring Book. London, Gale & Polden, Ltd., 1904.

Notes on Army Signalling. London, Gale & Polden, Ltd., 1904.

Questions and Answers for the Imperial Yeomanry. Put together by Capt. C. H. Anderson-Pelham. London, Gale & Polden, Ltd., 1904.

A Biographical Memorial of General Daniel Butterfield. Edited by Julia Lorrilard Butterfield, New York. The Grafton Press, 1904.

Manual for Non-Commissioned Officers of a Troop of Cavalry, in Security and Information. By Lieut. John J. Boniface, 4th Cavalry. Kansas City, Mo., Hudson-Kimberly Publishing Co., 1904.

Gun Powder and Ammunition. By Colonel Henry W. L. Hime (Late) Royal Artillery. New York, Longmans, Green & Co., 1904.

Publisher's Department.

"PROGRESS"

In considering the various advances that have been made in conditions and methods in the Army and Navy during the part few years, such as improved card systems, etc., the advent of the visible writing typewriter deserves its full share of the credit for enabling the departments to keep pace with the increased amount of work and placing it on a modern footing. Before going to Manila, General Carter, who was one of the first officers appointed on the general staff, remarked to a gentleman that if it had not been for the Underwood Typewriters used in the Adjutant General's office, he did not see how they would ever have been able to index all of the records of the Spanish-American War and bring the work up to date, as thousands and thousands of these index cards had to be typewritten, and the Underwood was by far the most practical machine for this purpose.

In an address a short time ago, Mr. Myler T. Frisbie made the following remarks regarding typewriters in general: "Of course there is a great difference in typewriting machines. For myself I believe thoroughly in the visible writing principle, which I am confident must soon prevail in typewriter manufacture. But thousands of the old stroke machines are still in use and will probably continue to be used for some years to come. If you are obliged to operate a blind writing machine, master it so thoroughly that you will not continually be obliged to make the writing visible. Do you know how often the average operator does that? I do, for I have timed them again and again. Three times a minute, 120 times an hour, 1,440 times in a day of eight hours. Those are conservative figures based on a long period of observation. They apply to capable operators, some of whom asserted that they almost never raised the carriage or pulled the platen forward. They had done it so many times that it became a habit and was frequently done unwittingly and without purpose. Make yourself independent of that handicap as far as you can."

At the present time the Underwood has the field practically to itself, as there is no other standard keyboard visible writing machine on the market, which probably accounts for the fact that they are doing such an extensive business with the Government at Washington, as it has been estimated that during the present fiscal year 50% more Underwoods have been purchased by the departments than during any previous year. The new models No. 3, No. 4 and No. 5 are certainly very attractive, they not only show a more improved principle, but superior workmanship.

* * *

GOLD SEAL CHAMPAGNE.

Those who are interested in the subject of wines should not fail to take a look at the showing of the Urbana Wine Company, in the Agricultural Building of the Louisiana Purchase Exposition, where they have a very attractive booth.

The visitor will find not only a very attractive display of the various wines this company places on the market, but an oil planting of large size showing the large cellar and surrounding vineyards, and the attendant gives out dainty cards and souvenirs to the inquiring ones.

The "Gold Seal" Champagne produced by this Company is the leading sparkling wine on the market.

The "Special Dry," for hotel and family trade, has been five years in the cellars. The smaller companies are usually in a hurry to put their wines on the market. A large company like the Urbana, with its available capital and immense reserve stock, can fully mature their wines before placing them on the market.

The Urbana Company finish "Gold Seal" in two grades—Special Dry and Brut.

The Gold Seal "Special Dry" is the brand most in favor, as suiting the average palate, while "Brut" is as dry as a wine can be made and be palatable, and it is highly valued for its medicinal qualities.

These two brands will satisfy the most critical. They both have that "clean taste" which, as connoisseurs know, is characteristic only of the best wines and champagnes.

Thus, this popular brand of champagne received the highest awards at the Paris Exposition, at New Orleans, and at the World's Columbian Exposition at Chicago, in 1893. The judges at the World's Fair pronounced "Gold Seal" as "being light, pleasant, clean in taste, with good effervescence and bouquet."

It is not claimed that "Gold Seal" is better than some of the finest brands of French Champagne. But the claim is made that "Gold Seal" is equal to any in purity, and superior to many, of the brands of champagne which now have a name and an inflated reputation.

Thousands of people who once drank the foreign article are now loud in their praises of the American product. The "Gold Seal" brand is to-day on the wine-list of the leading hotels of the country. It is found at the exclusive clubs, and on the tables of our best American families.

* * *

AMOLE SHAVING SOAP.

This article is manufactured at Peoria, Ills., by the Mexican Amole Soap Co. It is said that.

It has the richest, creamiest, closest grained, longest-lasting lather of all shaving soaps.

It softens the beard quicker than any other soap.

The medicated Amole prevents the breaking of the scarf skin, making shaving diseases, hurts and skin worries next to impossible.

It is made of superfine, sterilized vegetable oils, chemically pure.

After shaving, the face feels refreshed, the skin invigorated, the nerves rested, and a luxurious, safe and perfect shave is now for the first time possible to the barber's art.

AMOLE SHAMPOO.

Ask your Supply Dealer for it.

Made in Liquid or Paste form, either Tar or Glycerine Preparation.

Dandruff cannot exist where Amole Shampoo is used. It makes the hair soft and glossy, leaving it in a healthy condition. It removes the cause of dandruff, eczema, and all other scalp ailments, by allaying heat, congestion or over-active vigor of the excretory scalp glands. The Amole lather is wonderful in cleansing out the effects of abnormal scalp action, such as grime, sweaty collections and dandruff. It is exquisitely perfumed, put up in beautiful 5 oz., 10 oz. and 16 oz. jars, goes farther in application, and is better adapted for its purpose than any other shampoo or hair vigor yet discovered.

* * *

A NEW COLT REVOLVER, OFFICER'S MODEL.

The Colt's Patent Fire Arms Manufacturing Co., Hartford, Conn, have just placed on the market a new revolver, U. S. Service Model. This arm is fitted with special target sights; rear sight adjustable for windage—front sight for elevations. The action is hand finished throughout to give smoothness of pull and movement, as these points are very essential in a target arm. The stocks are of selected walnut, finely checked, the guard, strap and trigger are checked. It is designed like our New Army, for .38 Long Colt (U. S. Service Cartridge). It will also use the special and gallery loads down to the light charge with round bullet. Length of barrel is 6 inches, and weight 32 ounces.

PUBLISHER'S DEPARTMENT

A RIFLE POLISH, THE RESULT OF AN EXPERIMENT.

A Polish is manufactured by the Lowell Polish Company, Lowell, Mass. that seems to have the floor at the present. It was the result of an experiment and has been a great success. Originally it was manufactured to be used as a wood polish only, but a trial showed that it produced a remarkably fine polish when applied to steel and leather. It goes a long way, as ten rifles can be polished with the contents of a ten cent box. If you cannot procure it from your dealer, apply direct to the firm in Lowell.

* * *

A UNIQUE ACCIDENT.*

H. C., about 40 years of age, weighing about 200 pounds, came home late in the night in a "festive condition." Inserting his key in the door lock, his foot slipped and he fell with his face, respectively his mouth, on the edge of the key, severing the tissues below the lower gum and the sublingual gland.

When I arrived at the house he was vomiting profusely. However, when the vomiting ceased for a while, I noticed blood oozing from behind the lower lip, intermixed with a yellowish, somewhat frothy liquid pouring out in gushes. I endeavored to stop the flow, but did not succeed owing to the repeated vomiting spells.

At last I succeeded to inject hypodermically a half a grain of morphine, in consequence of which a cessation of vomiting followed shortly.

After a careful examination of the injured parts, I concluded it could be but the sublingual gland which emits the secretions, and was not a little surprised at the enormous quantity, as, to my knowledge, this gland is very small and weighs only one dram. I intended to put some stitches in the tear, but patient protested against it in his semi-intoxicted condition. I had to resort therefore to the application of strips of adhesive plaster to the surface of the lower lip, thus compressing the severed parts.

As a matter of fact, this procedure stopped the discharge and I left patient in quite a comfortable condition.

The beneficial action of the morphine, however, was of short duration, as I was summoned again about two hours after, with the frightened remark that patient is suffocating.

When I arrived, I found patient hanging down his head from the bed, gasping for breath, as some food-masses could not pass through the mouth owing to the compressed chin. I tore off the bandage, and with the contents of the stomach the little gland commenced to flow with renewed vigor. By this time, the man having sobered somewhat, after some arguments he permitted me to put in the necessary sutures.

Notwithstanding the internal administration of some stomachia the irritation continued, vomiting would not cease. I was compelled to inject hypodermically another dose of morphine, which after some minutes stopped that wretched retching.

The next day, however, as the effect of the morphine passed away, vomiting recurred.

Considering the fact that a simple alcoholic irritation of the stomach would yield to the prescribed treatment, I concluded that it could be but the swallowed secretions of the sublingual gland which caused the persistent irritation.

First, I considered a washing of the stomach, but, as previously, I met with the opposition of patient.

As a matter of course, there was only an internal medication left for consideration. I decided, therefore, on a simple innocuous antiseptic—glycozone—with which I had quite a satisfactory experience in several cases of ptomaine poisoning. I prescribed it in repeated tablespoonful doses with rapid and gratifying results.

Notwithstanding the liberal use of antiseptic washes and sprays, the wound in the mouth was healing but very slowly.

* Reprinted from the *Medical Summary*, January, 1904.